Volume 2: Appendices

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APPENDIX II-A

Housing and Employment Projections

Appendix II-A: Housing and Employment Projections

Year 2006 (Plan base year or existing conditions year) and year 2030 estimates and projections of housing and employment are presented in four tables on the following pages. They reflect the current development input to the model during its development and the amount of future development anticipated by the NJMC. They represent the quantities used in the regional travel simulation model that produced the existing and future travel demand to determine the need for improvements.

Table 1: 2006 NJMC Region Dwelling Units by ITE Classification

	ITE CODE			
TAZ	**210 (LDR)**	**220 (MDR)**	**230 (HDR)**	**TOTAL**
4	1			1
6	13			13
7	1			1
9		12		12
10	1			1
16	5			5
20	1			1
22	10			10
23	**1**			**1**
28	**4**			**4**
33	188			188
35	106			106
36	13			13
39	**4**			**4**
47	9			9
48	5			5
50	1			1
51	4			4
53	54			54
55	42	449		491
56	5			5
57	1			1
58		4		4
59	**1**			**1**
63	3			3
74	3			3
81	**13**			**13**
83	1			1
91	72			72
95		4		4
100	1			1
108	1			1
130	**77**		**291**	**368**
131	**290**			**290**
132	**249**			**249**
133	168	22		190
134		38	241	279
136	49		43	92
137	40	204		244
139	75	44		119
140	1			1
141	**237**			**237**
142	**259**			**259**
143	**103**			**103**

Table 1: 2006 NJMC Region Dwelling Units by ITE Classification (continued)

	ITE CODE			
TAZ	**210 (LDR)**	**220 (MDR)**	**230 (HDR)**	**TOTAL**
145	6	574	11	591
146	1			1
151	**400**			**400**
152	**198**			**198**
154	101	123		224
159	5	77	188	270
160	4			4
164	8			8
167	92	9		101
168		28		28
173	26			26
Model area total	***2953***	***1588***	***774***	***5315***
TAZs Outside the District (Bold Data)	***1836***	***0***	***291***	***2127***
Total TAZs in the District	***1117***	***1588***	***483***	***3188***

ITE Classification Key:	210	220	230
	Single Family	Apartments	Condo/Townhouse

Table 2: 2030 NJMC Region Dwelling Units by ITE Classification

	ITE CODE			
TAZ	210 (LDR)	220 (MDR)	230 (HDR)	TOTAL
2		125		125
4	1			1
6	13			13
7	1			1
9		12		12
10	1			1
13		225		225
16	5			5
18		614		614
20	1			1
22	10			10
23	**1**			**1**
28	**4**			**4**
33	188			188
35	106			106
36	13		117	130
39	**4**			**4**
44		1,068	1,512	2,580
47	9	328		337
48	5			5
50	1			1
51	4		6	10
53	54			54
55	42	449		491
56	5			5
57	1			1
58		4		4
59	**1**			**1**
63	3			3
74	3			3
81	**13**			**13**
83	1			1
91	72			72
95		4		4
100	1			1
108	1			1
130	**77**		**291**	**368**
131	**290**			**290**
132	**249**			**249**
133	168	22		190
134		71	241	312
136	49		43	92
137	40	204		244
139	75	44		119
140	1			1
141	**237**			**237**

Table 2: 2030 NJMC Region Dwelling Units by ITE Classification (continued)

	ITE CODE			
TAZ	**210 (LDR)**	**220 (MDR)**	**230 (HDR)**	**TOTAL**
142	**259**			**259**
143	**103**			**103**
145	6	644	11	661
146	1			1
151	**400**			**400**
152	**198**			**198**
154	101	123		224
159	5	117	188	310
160	4			4
161		825	1,210	2,035
164	8			8
165			471	471
167	92	9		101
168		113	65	178
173	26			26
Model area total	***2953***	***5001***	***4155***	***12109***
TAZs Outside the District	***1836***	***0***	***291***	***2127***
Total TAZs in the District	***1117***	***5001***	***3864***	***9982***

ITE Classification Key:	210 Single Family	220 Apartments	230 Condo/Townhouse

Table 3: 2006 Employment in Meadowlands District by TAZ and Land Use Type

			ITE CODES																	
TAZ	Town	Total	22	110	120	130	140	150	170	310	443	452	460	480	481	494	495	530	540	550
			airport	light ind	heavy ind	ind park	mfg	warehous	utilities	hotel	movies	race track	arena	amuse pa	zoo	bowling	comm cer	high scho	comm col	college
2	Carlstadt	60						1	26								1			
4	Carlstadt	4,771	17	1,080	110		492	2,337	5	10										
5	Carlstadt	2,602		763	21		500	1,144												
6	Carlstadt	991		274	54		178	235												
8	Carlstadt	82			24		50	8												
9	Carlstadt	2,615		500			460	679												
10	Carlstadt	1,313		109	197		93	414												
13	E Rutherf.	234																		
16	E Rutherf.	160		5			5	76		64										
17	E Rutherf.	2,082		407	28			53		-		1,057					4			
18	E Rutherf.	682			11		21	70	25											
22	E Rutherf.	2,553		603			737	621	26											
33	Little Ferry	781		93	15			38	-											
35	Little Ferry	24		7	9		2													
36	Little Ferry	1,024		202	80		80	423												
44	Lyndhurst	60																		
47	Lyndhurst	4,953		339	573		375	780	54	280			8				67	8		
48	Lyndhurst	533		49	75		249	50	4											
50	Teterboro	3,956	236	2,872	3		42	170	109	53								40		
51	Teterboro	6,540	30	2,235	3,464		27	599	3	10					3					
53	Moonachie	1,489		300	120		86	626	3					5				56		
54	Moonachie	745	270	13	14		33	7										16	175	
55	Moonachie	3,081	16	748	211		1,009	747	15											
56	N. Arlington	26			15				11											
63	Ridgefield	477		20	40		52	152	175											
65	Ridgefield	420		7	40		73	79												
74	Rutherford	15						14												
75	Rutherford	2,127		1,600	38			18												
76	Rutherford	813					200			-										
83	Jersey City	3						3												
85	Jersey City	151					45	1												
86	Jersey City	172			3			160												
91	Jersey City	636		169	109		17	183										35		
97	Kearny	30					10	10												
101	Kearny	858						840												
104	Kearny	51		6	2		10	31												

Table 3: 2006 Employment in Meadowlands District by TAZ and Land Use Type (continued)

			ITE CODES																	
TAZ	Town	Total	22	110	120	130	140	150	170	310	443	452	460	480	481	494	495	530	540	550
105	Kearny	490		100	1		2	142												
106	Kearny	19			4			15												
107	Kearny	421																		
111	Kearny	830		25	10			18	764											
115	N. Bergen	4,046		1,000	86		2,008	934												
116	N. Bergen	1,485		360	51		5	710	60					5						
117	N. Bergen	31					-	5												
120	N. Bergen	695		310	10		120	210												
125	N. Bergen	5						5		-										
127	N. Bergen	200						200												
128	N. Bergen	1,100						1,100												
133	Secaucus	44		6	28			5												
134	Secaucus	36			4		9	23												
136	Secaucus	58						41	17											
137	Secaucus	48		2	3		13	9												
139	Secaucus	9		4																
140	Secaucus	5															5			
144	Secaucus	54					4	8												
145	Secaucus	1,284		120	18		3	41	20	295							5			
146	Secaucus	3,653			5		14	3,579	-											
147	Secaucus	3,448			11		357	1,927												
148	Secaucus	1,726		50	342		75	177												
149	Secaucus	985		6			393	369	15											
150	Secaucus	10					1											-		
154	Secaucus	930		2	11		4	174												
155	Secaucus	472		2				3	8								3	110		
156	Secaucus	924		7	13		5	-		35							10			
157	Secaucus	6,642		974	210	1	44	293	23	239	1		-				82			
159	Secaucus	484		25	4		80	253												
160	Secaucus	178					1	11	65											
161	Secaucus	616						551												
164	Secaucus	693		105	10			552												
166	Secaucus	491	8	100	9		37	253												
167	Secaucus	153		4	1	55	17													
168	Secaucus	4,595		308	57		160	2,064	556					24						
172	Secaucus	41																		
173	Secaucus	2,912		1,353	1		451	752	4											
		86,923	577	17,264	6,145	56	8,649	24,993	1,988	986	1	1,057	8	34	3	-	177	265	175	-

Table 3: 2006 Employment in Meadowlands District by TAZ and Land Use Type (continued)

TAZ	Town	565	590	610	710	720	730	733	812	814	816	817	820	823	832	840	841	844	850	890	911
		day care	library	hospital	gen office	med office	govt office	govt comp	bldg mate	spec retai	hardware	nursery	shop cent	outlet cen	restaurant	auto cente	new cars	serv. stati	supermart	furniture	walk-in ba
2	Carlstadt														32						
4	Carlstadt				570					20			7	3	28	77		5		1	9
5	Carlstadt				90	30			10	17					-	26				1	
6	Carlstadt				100					13					60	20	50		7		
8	Carlstadt																				
9	Carlstadt				959					2										15	-
10	Carlstadt				328					8					143	21					
13	E Rutherf.												234								
16	E Rutherf.				10																
17	E Rutherf.				185			10		3				12	282	22	2				17
18	E Rutherf.				362	6				94			65		8	20					
22	E Rutherf.				502	12				1			2			16			18	15	
33	Little Ferry				234		365			1		1			28					1	5
35	Little Ferry									6											
36	Little Ferry				190	10							20			15			1	3	
44	Lyndhurst				60																
47	Lyndhurst	20			1,677	70	100			152			52		265	67				50	16
48	Lyndhurst				11							20				75					
50	Teterboro				331	2	3	30							38	7	20				
51	Teterboro				76	-	40			3					8	8	34				
53	Moonachie				89		-	1		12	8		80	44	56				3	-	
54	Moonachie				108								43		10	42	14				
55	Moonachie				16		6	35		4			43	70	125	16	20				
56	N. Arlington																				
63	Ridgefield				8					14					3	9		2	2		
65	Ridgefield				213					3		4				1					
74	Rutherford															1					
75	Rutherford				471								-								
76	Rutherford				613																
83	Jersey City																				
85	Jersey City									100							5				
86	Jersey City				3							6									
91	Jersey City				3	4				11			7		54	29	7	8			
97	Kearny				10																
101	Kearny									18											
104	Kearny												2								

Table 3: 2006 Employment in Meadowlands District by TAZ and Land Use Type (continued)

TAZ	Town	565	590	610	710	720	730	733	812	814	816	817	820	823	832	840	841	844	850	890	911
105	Kearny				206					39											
106	Kearny																				
107	Kearny												421								
111	Kearny				13																
115	N. Bergen				9					3				6					-		
116	N. Bergen		10		173					11				100							
117	N. Bergen									26											
120	N. Bergen															45					
125	N. Bergen																				
127	N. Bergen																				
128	N. Bergen																				
133	Secaucus												4			1					
134	Secaucus																				
136	Secaucus																				
137	Secaucus				14					1						6					
139	Secaucus				5																
140	Secaucus																				
144	Secaucus				31	5				5			1								
145	Secaucus		14		221	27	20			19		2	8	34	389		-			17	31
146	Secaucus				13	2								-	40						
147	Secaucus	2			59					6			51	881	14				4	136	
148	Secaucus				623	5				11			5	438							
149	Secaucus				9	12			25				13	101						42	
150	Secaucus				9																
154	Secaucus	-			298	20				123			18		85	7		6	152		30
155	Secaucus				21	6				48			126	96	10				6	33	
156	Secaucus				152	18			300					300	24			19		30	11
157	Secaucus	25			3,600	5		3		176			204	68	668	2			4	20	
159	Secaucus				25	5							37		35	10				10	
160	Secaucus				101			-													
161	Secaucus													65							
164	Secaucus				2	4				10		9			-	1					
166	Secaucus									39				30						15	
167	Secaucus				5					5				6	58		2				
168	Secaucus		1	200	848	32	40			82			27	157	23						16
172	Secaucus				41																
173	Secaucus	2			63	1				90				112	4	74		4	1		
		49	25	200	13,760	276	574	79	336	1,176	8	42	1,470	2,523	2,490	618	154	44	198	389	135

Table 4: 2030 Employment in Meadowlands District by TAZ and Land Use Type

			ITE CODES																	
TAZ		Total	22	110	120	130	140	150	170	310	430	443	452	460	480	481	494	495	530	540
			airport	light ind	heavy ind	ind park	mfg	warehous	utilities	hotel	golf cours	movies	race track	arena	muse par	zoo	bowling	mm cent	igh schoo	omm coll
2	Carlstadt	157						1	26	28	-							1		
4	Carlstadt	5,093	17	1,080	110		492	2,315	5	10										
5	Carlstadt	2,860		763	21		500	1,144												
6	Carlstadt	1,746		274	54		178	108												
8	Carlstadt	82			24		50	8												
9	Carlstadt	2,615		500			460	679												
10	Carlstadt	1,313		109	197		93	414												
13	E Rutherf.	331						-		28										
16	E Rutherf.	2,691		5			5	473		64										
17	E Rutherf.	2,082		407	28			53		-			1,057					4		
18	E Rutherf.	682			11		21	70	25											
21	E Rutherf.	9,706						-		570										
22	E Rutherf.	2,553		603			737	621	26											
33	Little Ferry	781		93	15			38	-											
35	Little Ferry	24		7	9		2	-												
36	Little Ferry	1,075		202	80		80	474												
44	Lyndhurst	537						-		199	63									
47	Lyndhurst	5,196		339	573		375	940	54	280				8				67	8	
48	Lyndhurst	533		49	75		249	50	4											
50	Teterboro	3,956	236	2,872	3		42	170	109	53									40	
51	Teterboro	8,211	30	2,235	3,464		-	1,607	3	10						3				
53	Moonachie	1,489		300	120		86	626	3						5				56	
54	Moonachie	745	270	13	14		33	7											16	175
55	Moonachie	3,081	16	748	211		1,009	747	15											
56	N. Arlington	42			15			-	11		16									
63	Ridgefield	477		20	40		52	152	175											
65	Ridgefield	420		7	40		73	79												
74	Rutherford	1,605						14		123										
75	Rutherford	3,657		1,600	38			18												
76	Rutherford	813					200	-		-										
82	Jersey City	362						362												
83	Jersey City	3						3												
85	Jersey City	839					45	689												
86	Jersey City	172			3			160												
90	Jersey City	255						255												
91	Jersey City	636		169	109		17	183											35	
97	Kearny	30					10	10												
101	Kearny	2,668						2,634			16									
102	Kearny	2,412						2,412												
104	Kearny	51		6	2		10	31												

Table 4: 2030 Employment in Meadowlands District by TAZ and Land Use Type (continued)

			ITE CODES																	
TAZ		Total	22	110	120	130	140	150	170	310	430	443	452	460	480	481	494	495	530	540
105	Kearny	490		100	1		2	142												
106	Kearny	797			4		-	793												
107	Kearny	1,351						-												
111	Kearny	1,323		25	10			511	764											
115	N. Bergen	4,046		1,000	86		2,008	934												
116	N. Bergen	1,485		360	51		5	710	60						5					
117	N. Bergen	31					-	5												
118	N. Bergen	5,368						-												
120	N. Bergen	695		310	10		120	210												
125	N. Bergen	5						5		-										
127	N. Bergen	200						200												
128	N. Bergen	1,413						1,198												
133	Secaucus	44		6	28			5												
134	Secaucus	36			4		9	23												
136	Secaucus	58						41	17											
137	Secaucus	48		2	3		13	9												
139	Secaucus	9		4				-												
140	Secaucus	5						-										5		
144	Secaucus	54					4	8												
145	Secaucus	1,792		120	18		3	41	20	409								5		
146	Secaucus	3,653			5		14	3,579	-											
147	Secaucus	3,771			11		357	1,527												
148	Secaucus	1,726		50	342		75	177												
149	Secaucus	985		6			393	369	15											
150	Secaucus	10					1	-											-	
154	Secaucus	930		2	11		4	174												
155	Secaucus	472		2				3	8									3	110	
156	Secaucus	924		7	13		5	-		35								10		
157	Secaucus	6,642		974	210	1	44	293	23	239		1		-				82		
159	Secaucus	415		25	4		80	184												
160	Secaucus	178					1	11	65											
161	Secaucus	1,030						-												
164	Secaucus	739		105	10			552		46										
165	Secaucus	8,074						-		456										
166	Secaucus	491	8	100	9		37	253												
167	Secaucus	153		4	1	55	17	-												
168	Secaucus	4,477		308	57		160	801	556	285					24					
172	Secaucus	41						-												
173	Secaucus	2,912		1,353	1		451	752	4											
Total		128,854	577	17,264	6,145	56	8,622	31,057	1,988	2,835	95	1	1,057	8	34	3	-	177	265	175

Table 4: 2030: Employment in Meadowlands District by TAZ and Land Use Type (continued)

TAZ		550	565	590	610	710	720	730	733	812	814	816	817	820	823	832	840	841	844	850	890	911	944
		college	day care	library	hospital	gen offi	med off	govt off	govt co	bldg ma	spec ret	hardwa	nursery	shop ce	outlet c	restaura	auto cer	new car	serv. sta	superm	furnitur	walk-in	gas
2	Carlstadt										20					81							
4	Carlstadt					570					20			351	3	28	77		5		1	9	
5	Carlstadt					90	30			10	17			258		-	26				1		
6	Carlstadt					100					687			268		-	20	50		7			
8	Carlstadt																						
9	Carlstadt					959					2										15	-	
10	Carlstadt					328					8					143	21						
13	E Rutherf.										20			234		49							
16	E Rutherf.					673								1,471									
17	E Rutherf.					185			10		3				12	282	22	2				17	
18	E Rutherf.					362	6				94			65		8	20						
21	E Rutherf.					4,974					4,162												
22	E Rutherf.					502	12				1			2			16			18	15		
33	Little Ferry					234		365			1		1			28					1	5	
35	Little Ferry										6												
36	Little Ferry					190	10							20			15			1	3		
44	Lyndhurst					60								215									
47	Lyndhurst		20			1,760	70	100			152			52		265	67				50	16	
48	Lyndhurst					11							20				75						
50	Teterboro					331	2	3	30							38	7	20					
51	Teterboro					766	-	40			3					8	8	34					
53	Moonachie					89		-	1		12	8		80	44	56				3	-		
54	Moonachie					108								43		10	42	14					
55	Moonachie					16		6	35		4			43	70	125	16	20					
56	N. Arlington																						
63	Ridgefield					8					14					3	9		2	2			
65	Ridgefield					213					3		4				1						
74	Rutherford					1,467											1						
75	Rutherford					2,001								-									
76	Rutherford					613																	
82	Jersey City																						
83	Jersey City																						
85	Jersey City										100							5					
86	Jersey City					3							6										
90	Jersey City																						
91	Jersey City					3	4				11			7		54	29	7	8				
97	Kearny					10																	
101	Kearny										18												
102	Kearny																						
104	Kearny													2									

Table 4: 2030: Employment in Meadowlands District by TAZ and Land Use Type (continued)

TAZ		550	565	590	610	710	720	730	733	812	814	816	817	820	823	832	840	841	844	850	890	911	944
105	Kearny					206					39												
106	Kearny																						
107	Kearny													1,348									3
111	Kearny					13																	
115	N. Bergen					9					3				6					-			
116	N. Bergen			10		173					11				100								
117	N. Bergen										26												
118	N. Bergen													5,368									
120	N. Bergen																45						
125	N. Bergen																						
127	N. Bergen																						
128	N. Bergen					215																	
133	Secaucus													4			1						
134	Secaucus																						
136	Secaucus																						
137	Secaucus					14					1						6						
139	Secaucus					5																	
140	Secaucus																						
144	Secaucus					31	5				5			1									
145	Secaucus			14		221	27	20			217		2	8	34	585		-			17	31	
146	Secaucus					13	2								-	40							
147	Secaucus		2			761					6			72	881	14				4	136		
148	Secaucus					623	5				11			5	438								
149	Secaucus					9	12			25				13	101						42		
150	Secaucus					9																	
154	Secaucus		-			298	20				123			18		85	7		6	152		30	
155	Secaucus					21	6				48			126	96	10				6	33		
156	Secaucus					152	18			300					300	24			19		30	11	
157	Secaucus		25			3,600	5		3		176			204	68	668	2			4	20		
159	Secaucus					25	5							37		35	10				10		
160	Secaucus					101			-														
161	Secaucus					497					178			290	65								
164	Secaucus					2	4				10		9			-	1						
165	Secaucus					7,296								322									
166	Secaucus										39				30						15		
167	Secaucus					5					5				6	58		2					
168	Secaucus			1	200	1,240	32	40			260			317	157	23						16	
172	Secaucus					41																	
173	Secaucus		2			63	1				90				112	4	74		4	1			
Total		-	49	25	200	####	276	574	79	335	6,606	8	42	####	2,523	2,724	618	154	44	198	389	135	3

APPENDIX II-B

Committed Roadway and Transit Projects

Committed Roadway Improvement Projects

ITS along I-80 and adjoining segments of Routes 4, 17, and 46

The 2001 NJDOT Long Range Plan proposed this strategy. NJDOT has implemented some ITS strategies, including along I-80.

Route 46 Little Ferry Circle Improvements

This project will eliminate the Little Ferry Circle and make appropriate roadway and signal improvements aimed at enhancing vehicular circulation between local side streets and Route 46 in Little Ferry. This improvement will reduce the current dangerous ingress and egress of patron vehicles accessing businesses fronting Route 46.

New Jersey Turnpike Western Spur – New 18W Toll Plaza for Sports Complex Ramps

This project will provide around-the-clock direct access from the NJ Turnpike to the Sports Complex, the proposed Xanadu Project, and Paterson Plank Road/Route 120. Enhancements include a new toll plaza and ramping modifications.

New Jersey Turnpike Exit 16W expansion

This project will address the anticipated traffic impacts from various developments. It includes improvements to Exit 16W, westbound Route 3, and other nearby roads, as well as constructing a new toll plaza near Exit 18W.

New Jersey Turnpike Exit 16E / 18E

This project involves constructing two additional entry lanes at this interchange.

Reconfiguration of Routes 120 and 3 Interchange

Design recommendations for the reconfiguration of the interchange of Routes 120 and 3 will be forthcoming as a result of a study undertaken for the NJSEA, in cooperation with the NJMC.

Route 3 flyover / ramps near stadium

This project is part of the $71 million package of improvements for various developments.

Route 3 Passaic River Crossing & Service Road Improvements

The project improves Route 3 from Main Avenue in Clifton to the Route 17 interchange. Project improvements include replacing eight separate bridge structures (Route 3 over the Passaic River, over NJ Transit, over Lower Pond, over River Road, over the Route 21 ramps, as well as the Park Avenue, Ridge Road, and Orient Way crossings over Route 3), adding a 12-foot auxiliary lane eastbound and westbound to alleviate the congestion experienced through the corridor during peak periods, specifically at the ramp merge points and the Passaic River Crossing. Standard acceleration and deceleration lanes will be provided to safely transition vehicles to and from the highway.

Route 3 / Route 46 Interchange

While well out of the district, it should be noted that the Route 3 and Route 46 merge in Clifton is in need of improvement and expansion demanding immediate attention and reconfiguration.

Golf Course Road

This two to three lane roadway connecting the Route 17/Route 3 service road to Valley BrookAvenue in Lyndhurst will provide primary access to the golf course redevelopment project.

Route 120 and Paterson Plank Road improvements

The Meadowlands Regional improvement program includes this project

Route 120 Southbound and Ramps E,F,K, and L

The Meadowlands Rail and Road Improvement EIS proposes this project.

Widening and intersection improvements at Murray Hill and Gotham Parkway

This project includes widening and other improvements along Paterson Plank Road.

Route 17 intersection improvements between Highland Cross and Union and between Franklin and Williams.

Route 17 Drainage Improvements at Bergen County Line Underpass

Replace and Widen Route 17 Essex Street bridge

Route 1&9 Improvements– NYS&W RR Bridge

The existing bridge structure contains two travel lanes in each direction. The proposed bridge replacement will contain two 11-foot travel lanes in each direction and an 8-foot shoulder on the southbound side of the structure. It also will provide 7-foot sidewalks on both sides. The adjacent roadway approaches also will contain two 11-foot travel lanes and an 8-foot shoulder in each direction. A four-foot sidewalk will be provided on both sides of the proposed roadway.

Route 1&9 Improvements – Secaucus Road, Secaucus to Broad Avenue, Fairview

This project has three major components: (1) pavement reconstruction, (2) widening and upgrading of the roadway section to current standards, and (3) drainage system improvements. Also included are new sidewalks on both sides of the roadway, increase in lane widths (11-foot minimum), utility relocations, replacement and upgrading of all traffic signals and curb ramps to comply with ADA requirements. Between 70th and 83rd Streets in North Bergen, concrete median barriers, left turn lanes, and shoulder construction also is included. Additionally, a new northbound left-turn lane on Tonnelle Avenue (Route 1&9) at 69th Street will be provided.

Route 7 Wittpenn Bridge Replacement

This project will replace the existing bridge with a new vertical lift structure over the Hackensack River between Jersey City and Kearny. There also will be improvements to the interchange of Fish House Road. The existing bridge provides four 10-foot travel lanes with no shoulders and no physical separation between the opposing traffic. The new structure will carry two 12-foot through lanes, a 12-foot auxiliary lane, and 10-foot right shoulders. An 8-foot median consisting of two 3-foot left shoulders and a 2-foot raised median barrier will separate opposing traffic.

St. Paul's Avenue/Conrail Bridge

This project will replace the existing St. Paul's Avenue Viaduct with a new structure on a new alignment north of the existing structure. The new viaduct will provide direct connections to Routes 1&9, Route 7, the Wittpenn Bridge, the Pulaski Skyway, Route 139, and the local network of streets in Jersey City. The project is a part of Portway, Phase I.

Grade Separation and Widening of New County Road in Secaucus

This project will provide grade separations on New County Road, adjacent to the Secaucus Junction area, over NJ Transit's Main Line and Norfolk Southern's Croxton Yard freight rail lines. NJ Transit has started construction of the roadway bridge over the Main Line, which will widen the roadway on the bridge structure and the southern terminus of the road at the County Park and Laurel Hill redevelopment area. The structure will be extended from two to three lanes. Incorporated as part of the NJ Turnpike's Interchange 15X Project, these improvements will, through the related Seaview Drive Extension, be linked directly to the Interchange.

Seaview Drive Extension

As part of the overall NJ Turnpike Authority's Interchange 15X project on the Eastern spur, this improvement will extend Seaview Drive eastward to intersect with New County Road and connect to the proposed Secaucus Interchange ramps adjacent to the Frank R. Lautenberg Rail Station. Independent of the NJ Turnpike Authority's Interchange 15X project, a future road is proposed to connect from the terminus of the existing Seaview Drive over NJ Transit's Main Line to New County Road Extension. This road will provide an additional means of access to the proposed Secaucus Transit Village, as well as the area adjacent to the Hackensack River.

69th Street Grade Separation

The proposed grade separation at 69th Street in North Bergen will eliminate the current at-grade crossing which causes frequent automobile delays due to long freight lines moving through this area. The proposed grade separation will eliminate the at-grade crossing of the CSX and the NYS&W rail lines, as well as the proposed extension of the HBLR system.

Committed Public Transit Improvement Projects

Sports Complex Extension – Phase I

This project involves creating a 1.9 mile two-track rail spur off the Pascack Valley Line, leading to an elevated rail station located in the immediate vicinity of Giants Stadium, Continental Airlines Arena, and the proposed Xanadu redevelopment initiative. Concept plan development and environmental assessment is underway. With a financial plan and commitment that allows the project to advance on a fast track, December 2007 is the target date for completing construction.

Hudson Bergen Light Rail (HBLR) System – Northern Branch

Conceptual design and environmental assessment is underway for the third link which will extend the system through Bergen County and into Tenafly. NJ TRANSIT is currently studying an extension using diesel multiple unit self propelled railcars (DMUs) for the entire distance between Tonnelle Avenue and Tenafly. It also has considered the possibility of constructing a connection between Tonnelle Avenue and the proposed THE Tunnel (see below).

Trans-Hudson Express (THE) Tunnel / Access to the Region's Core

There is a compelling need to provide increased train capacity along the Northeast Corridor under the Hudson River and into the area of Penn Station. An additional Trans-Hudson rail tunnel is proposed by the Access to the Region's Core Project to provide expanded passenger and train capacity between New Jersey and Midtown Manhattan. A major related project is to construct a loop connection between the Main / Bergen / Pascack Valley Lines with the Northeast Corridor near Secaucus Junction. Other related projects include the replacing the Northeast Corridor's Portal Bridge over the Hackensack River and additional rail tracks serving the new tunnel.

Pascack Valley Line Improvements

This project will facilitate expanding off-peak service by constructing passing siding tracks for passenger and freight trains, which will enable hourly off-peak service in both directions. The project is under construction and is scheduled for completion in Fall 2007.

APPENDIX II-C

District Developments

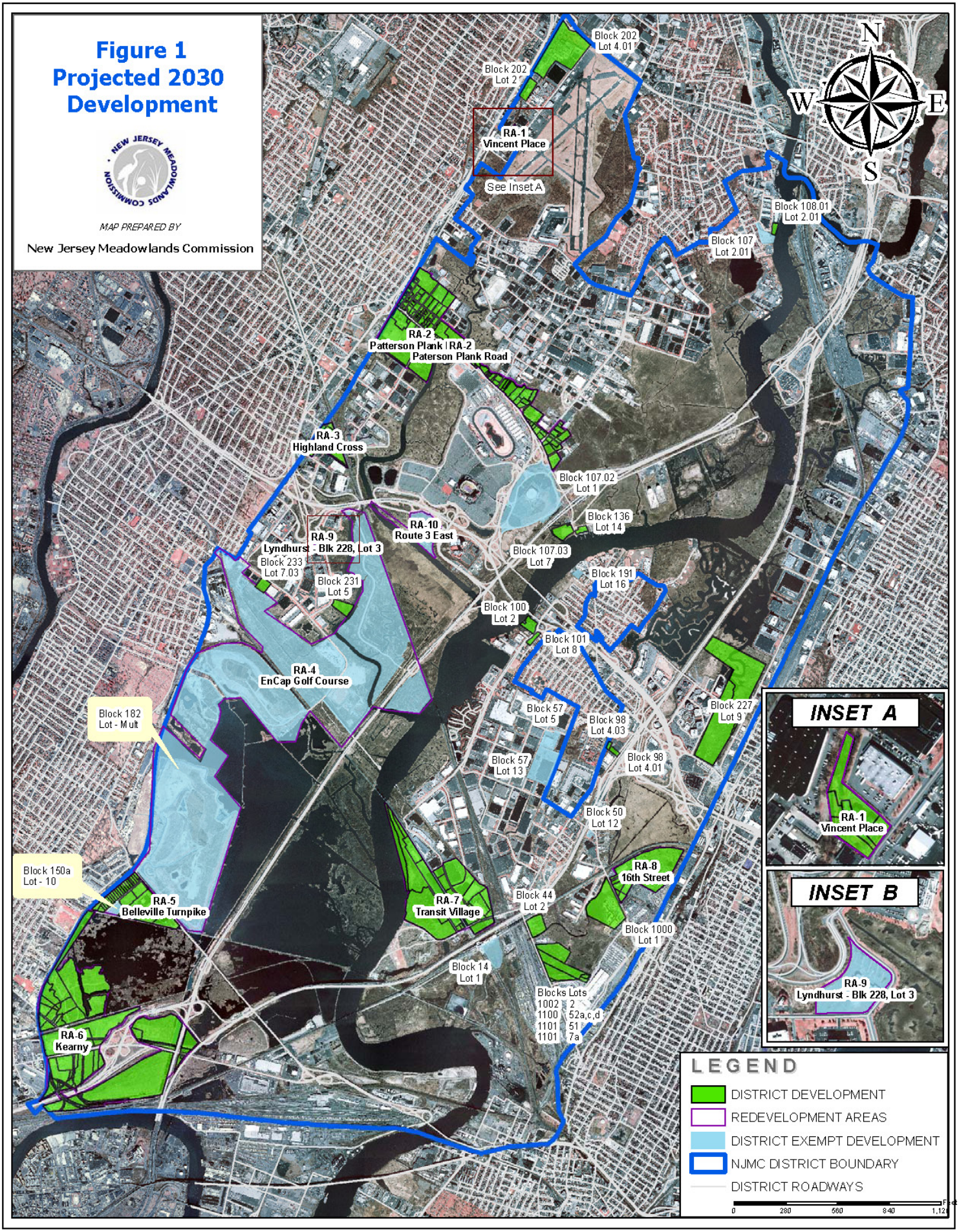


Figure 1
Projected 2030 Development
MAP PREPARED BY
New Jersey Meadowlands Commission
N
W
E
S
Block 202 Lot 4.01
Block 202 Lot 2
RA-1 Vincent Place
See Inset A
Block 108.01 Lot 2.01
Block 107 Lot 2.01
RA-2 Patterson Plank
RA-2 Paterson Plank Road
RA-3 Highland Cross
Block 107.02 Lot 1
Block 136 Lot 14
RA-10 Route 3 East
RA-9 Lyndhurst - Blk 228, Lot 3
Block 233 Lot 7.03
Block 231 Lot 5
Block 107.03 Lot 7
Block 191 Lot 16
Block 100 Lot 2
Block 101 Lot 8
RA-4 EnCap Golf Course
Block 182 Lot - Mult
Block 57 Lot 5
Block 98 Lot 4.03
Block 227 Lot 9
Block 57 Lot 13
Block 98 Lot 4.01
Block 50 Lot 12
Block 150a Lot - 10
RA-8 16th Street
RA-5 Belleville Turnpike
RA-7 Transit Village
Block 44 Lot 2
Block 1000 Lot 1
Block 14 Lot 1
Blocks Lots
1002 2
1100 52a,c,d
1101 51
1101 7a
RA-6 Kearny
INSET A
RA-1 Vincent Place
INSET B
RA-9 Lyndhurst - Blk 228, Lot 3
LEGEND
DISTRICT DEVELOPMENT
REDEVELOPMENT AREAS
DISTRICT EXEMPT DEVELOPMENT
NJMC DISTRICT BOUNDARY
DISTRICT ROADWAYS
0
280
560
840
1,120
Feet

Table 1: NJMC District Development

Town	Block	Lot	Redevelopment Area	Development
East Rutherford	105.01	2	PPR - Zone I	285,000sf Retail
East Rutherford	105.01	8 & 9	PPR - Zone I	200,000sf Office, 400,000sf Retail, 400,000sf Warehouse
Carlstadt	110	1	PPR - Zone I	35,000sf Retail
Carlstadt	111	1	PPR - Zone I	50,000sf Retail
Carlstadt	112	1	PPR - Zone I	45,000sf Retail
Carlstadt	114	1	PPR - Zone I	125,000sf Retail
Carlstadt	116	1	PPR - Zone I	25,000sf Retail
Carlstadt	117	3	PPR - Zone I	40,000sf Retail
Carlstadt	118	5	PPR - Zone I	70,000sf Retail
Carlstadt	119	1	PPR - Zone I	50,000sf Retail
Carlstadt	91	1	PPR - Zone II	170,000sf Warehouse
Carlstadt	120	18	PPR - Zone III	25,000sf Retail
Carlstadt	122	2	PPR - Zone III	120,000sf Retail
Carlstadt	124	6	PPR - Zone IV	160,000sf Retail
Rutherford	219.04	1	Highland Cross - Phase I	461,488sf Office
Rutherford	219.02	62	Highland Cross - Phase II	461,488sf Office, 216 Hotel Rooms
Kearny	205 & 253	Mult	Kearny – Node 1	1,900,000sf Warehouse
Kearny	275	Mult	Kearny – Node 2	797,000sf Warehouse
Kearny	286	Mult	Kearny – Node 3	675,000sf Warehouse
Kearny	284	Mult	Kearny – Node 4	431,868sf Retail
Secaucus	5	3 & 5	Transit Village	2035 DUs, 30,000sf Retail
Secaucus	5	Mult	Transit Village	150,000sf Office, 195,000sf Retail
Secaucus	10	Mult	Transit Village	150 DUs, 150,000sf Office, 195,000sf Retail
Secaucus	12	1	Transit Village	500 Hotel Rooms, 30,000sf Retail
North Bergen	449	C2	16th Street	45,000sf Office
North Bergen	449a	1b	16th Street	20,000sf Office
North Bergen	449a	7	16th Street	100,000sf Warehouse
Kearny	150	Mult	Belleville Turnpike	300,000sf Warehouse
Kearny	150a	64.01	Belleville Turnpike	950,000sf Warehouse
Teterboro	201	10 to 13	Vincent Place	6 DUs
East Rutherford	107.03	7	N/A	225 DUs, 50 Hotel Rooms, 10,000sf Retail, 5,000sf Restaunt, 55 Marina Berths
Carlstadt	136	14	N/A	125 DUs, 50 Hotel Rooms, 10,000sf Retail, 5,000sf Restaunt, 55 Marina Berths
Secaucus	227	9	N/A	2,500,000sf Retail
Little Ferry	108.01	2.01	N/A	40,000sf Warehouse
Lyndhurst	231	5	N/A	50,000sf Warehouse
Lyndhurst	233	7.03	N/A	25,000sf Office, 75,000sf Warehouse
Secaucus	44	2	N/A	290,000sf Warehouse
Teterboro	202	4.01	N/A	230,000sf Office, 700,000sf Warehouse
Teterboro	202	2	N/A	10,000sf Office, 90,000sf Warehouse
Secaucus	98	4	N/A	40 DUs
Secaucus	100	2	N/A	60,200sf Retail, 40 Marina Berths
Secaucus	101	8	N/A	70 DUs, 40,000sf Retail, 20,000sf Restaunt
Jersey City	1000	1	N/A	200,000sf Warehouse

Table 2: NJMC District Exempt Development

Town	Block	Lot	Redevelopment Area	Exemption	Transportation Mitigation As Per Developer's Agreement	Development
East Rutherford	107.02	1	N/A	Developers Agreement	$27,668,312	1,500,000sf Office, 2,100,000sf Retail, 1,000 Hotel Rooms
Secaucus	14	1	N/A	Developers Agreement	$125,000,000	4,000,000sf Office, 112,000sf Retail, 600 Hotel Rooms, 6,000 Parking Spaces
Lyndhurst/Rutherford	Mult	Mult	EnCap Golf	Developers Agreement	$7,665,628	2580 DUs, 100,000sf Retail, 350 Hotel Rooms, 36 Hole Golf Course
East Rutherford	108.04	5	N/A	Zoning Certificate	$0	614 DUs
Jersey City	1000/1100	Mult	N/A	Zoning Certificate	$0	539,500sf Warehouse
Kearny	150a	52.03	Belleville Turnpike	Zoning Certificate	$40,000	397,000sf Warehouse
Little Ferry	107	2.01	N/A	Zoning Certificate	$0	117 DUs (Senior Housing)
Lyndhurst	228	3	Lyndhurst Block 228 Lot 3	Zoning Certificate	$300,000	328 DUs
North Arlington/Kearny	182/150a	Mult	N/A	Developers Agreement	To Be Determined	18 Hole Golf Course
Secaucus	191	16	N/A	Zoning Certificate	$0	33 DUs
Secaucus	50	12	N/A	Zoning Certificate	$300,000	81 Hotel Rooms
Secaucus	57	5	N/A	Zoning Certificate	$290,325	245,200sf Office
Secaucus	57	13	N/A	Zoning Certificate	$300,000	10,000sf Retail, 309,720sf Warehouse

APPENDIX III-A

Public Transit Improvement Analysis

Purpose of Analysis:

1. Determine Transit Score for each Traffic Analysis Zone (TAZ) within the Meadowlands District under 2006 Existing Conditions and 2030 Future Conditions.
2. Utilize Transit Score analysis to determine focus areas that display supporting land use potential and densities to make various types of transit service options feasible and effective.
3. Develop recommendations for transit service improvement within the District based on the findings of the Transit Score analysis considering overall goals such as improved transit connectivity, accessibility and circulation within the Meadowlands District.

Transit Score Index:
(Source: *The 2020 Transit Score Report: Possibilities for Future,* NJ TRANSIT)

What is the Transit Score Index?

The Transit Score Index is a formula developed by NJ TRANSIT to measure of the feasibility of various types of public transit services, based upon the inputs of household and population density, 0-vehicle and 1-vehicle household density, and employment density. The index thus is essentially an indicator of development density, which generally is the key determinant of transit potential. In March 2007, NJ TRANSIT released an updated version of the formula – the calculations for this study were based upon the original formula shown below:

$$\left\{\frac{\left[\frac{\text{Population Density}}{3}\right] + [\text{Household Density}] + 2[\text{Zero-Vehicle Household Density}] + \left[\frac{\text{1-Vehicle Household Density}}{3}\right]}{3}\right\} + \left[\frac{\text{Emp. Density}}{2.5}\right]$$

Basis for Components of Transit Score

- Household and population densities represent trip origins or productions, which reflects the home or household end of the travel. The division of population by 3.0 reflects an approximate average size of a household.

- Using the number of zero and one car households is intended to reflect households and people who are transit dependent. Zero-car households are heavily dependent upon transit for travel. Such may include both low income and elderly (75+) households without access to an automobile. One car households have somewhat limited access, and some households members are dependent on transit because another family member is using the one auto. One-car households also include a significant number of single- person households. Single-person households have been shown to be somewhat more likely to utilize transit because of lack of children and the need to coordinate other activities within the family.

- Employment density reflects the trip attractions in an area as well as the destination of many transit trips. An area with a high density of employment is also likely to generate transit trips, just as high population and housing density.

Ranges of Transit Score Index

0.00 – 0.50	-	Low Transit Potential
0.51 – 1.00	-	Marginal Transit Potential
1.01 – 3.00	-	Medium Transit Potential
3.01 – 9.00	-	Medium High Transit Potential
9.01 & above	-	High Transit Potential

Application of Transit Score

The Transit Score is employed to identify where different types of transit investments may be considered subject to availability of resources. Areas with higher scores may be candidates for all types of services, while areas with lower scores may be candidates for only those services under category #2 or #3 shown below:

1. Fixed Guideway Transit: New commuter rail or light rail lines, extension of existing rail service, potential new ferry routes and new bus-only highway lanes.
2. Bus and Other Transit Service: New services or expanded frequency and period of service on existing express, local bus, minibus and vanpool operations.
3. Intermodal/ Access to Transit: New park and ride, shuttles to transit nodes.

Analysis Methodology:

Figure 1 displays the flowchart of the analysis methodology used to determine potential transit improvement recommendations from the Transit Score analysis.

The existing and committed transit system is discussed in Chapter II. The demographic data required for the transit score Index formula was obtained from NJMC and NYMTC travel demand models for the District traffic analysis zones (TAZs) both under existing and future build conditions. Tables 1 and 2 show the transit scores for Meadowlands District TAZs under 2006 existing and 2030 future build conditions, respectively. It should be noted that the tables also show Transit Scores for some peripheral TAZs just outside the district boundary under 2006 existing condition. Since specific future development information outside the district was not available, there is no change in Transit Scores for these peripheral TAZs between Table 1 and Table 2. Figures 2 and 3 graphically display existing and future transit scores respectively based on the ranges described above. These figures clearly demonstrate clusters of medium to high transit score areas within the District.

Figure 1
Transit Improvements Methodology Flowchart

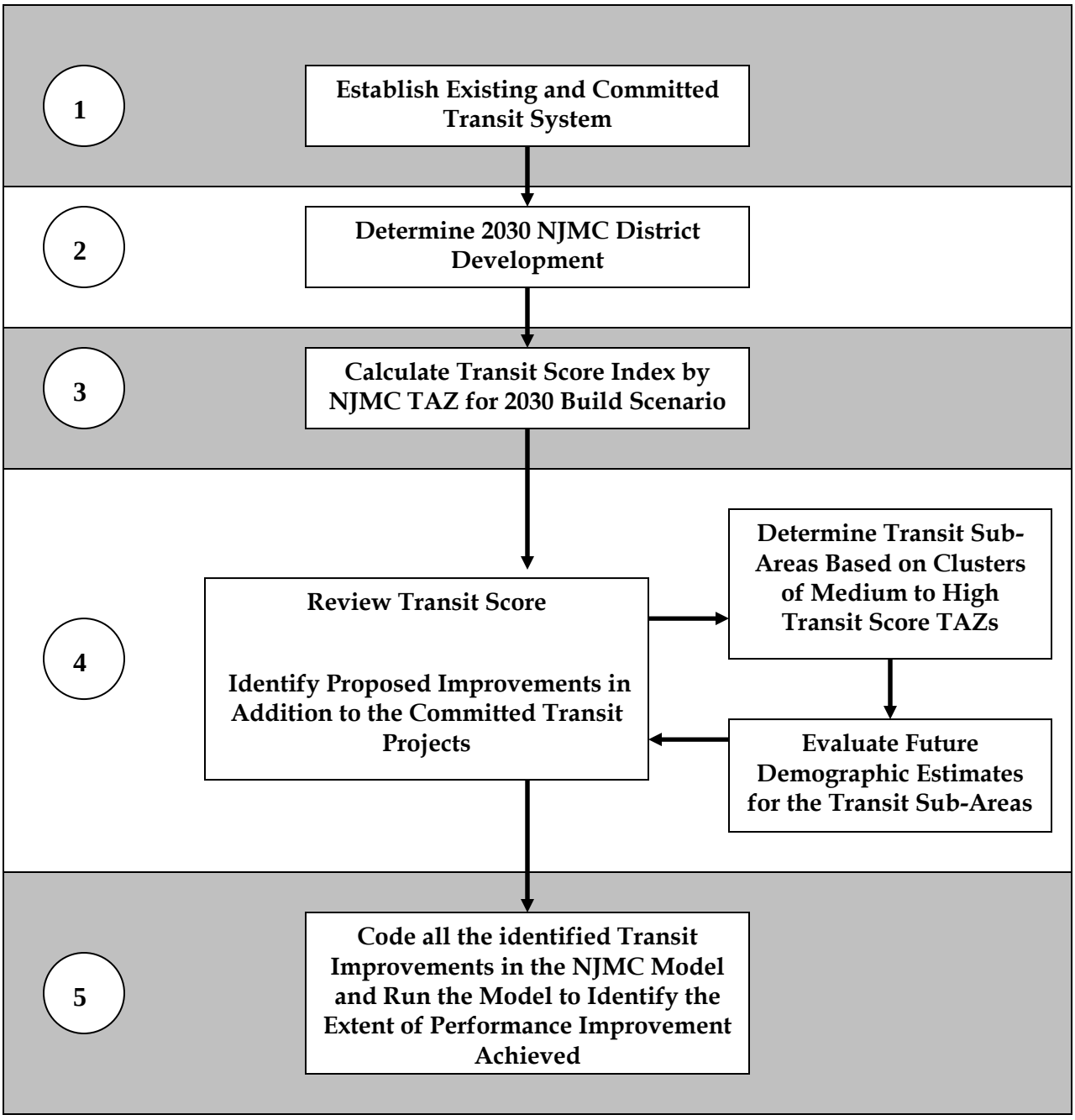


Table 1: 2006 Existing Condition Transit Score by Traffic Analysis Zones

TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
1	134.4	595	0	0	0	0	1.771	Medium	Carlstadt Borough
2	166.4	60	0	0	0	0	0.144	Low	Carlstadt Borough
3	505.6	0	0	0	0	0	0.000	Low	Carlstadt Borough
4	409.6	4771	1	2	0	0	4.661	Medium-High	Carlstadt Borough
5	249.6	2602	0	0	0	0	4.170	Medium-High	Carlstadt Borough
6	198.4	991	13	32	2	5	2.052	Medium	Carlstadt Borough
7	371.2	0	1	2	0	0	0.002	Low	Carlstadt Borough
8	230.4	82	0	0	0	0	0.142	Low	Carlstadt Borough
9	166.4	2615	12	30	2	5	6.345	Medium-High	Carlstadt Borough
10	108.8	1313	1	2	0	0	4.835	Medium-High	Carlstadt Borough
11	147.2	1043	0	0	0	0	2.834	Medium	East Rutherford Boro
12	44.8	393	0	0	0	0	3.509	Medium-High	East Rutherford Boro
13	102.4	234	0	0	0	0	0.914	Marginal	East Rutherford Boro
14	140.8	0	0	0	0	0	0.000	Low	East Rutherford Boro
15	115.2	0	0	0	0	0	0.000	Low	East Rutherford Boro
16	108.8	160	5	12	1	2	0.627	Marginal	East Rutherford Boro
17	192	2082	0	0	0	0	4.338	Medium-High	East Rutherford Boro
18	198.4	682	0	0	0	0	1.375	Medium	East Rutherford Boro
19	76.8	0	0	0	0	0	0.000	Low	East Rutherford Boro
20	262.4	0	1	2	0	0	0.003	Low	East Rutherford Boro
21	102.4	0	0	0	0	0	0.000	Low	East Rutherford Boro
22	268.8	2553	10	24	2	4	3.830	Medium-High	East Rutherford Boro
23	44.8	5	1	2	0	0	0.063	Low	East Rutherford Boro
24	134.4	0	0	0	0	0	0.000	Low	East Rutherford Boro
25	192	0	0	0	0	0	0.000	Low	East Rutherford Boro
26	83.2	0	0	0	0	0	0.000	Low	East Rutherford Boro
27	185.6	2053	0	0	0	0	4.425	Medium-High	Hasbrouck Heights Boro
28	102.4	362	4	10	0	2	1.445	Medium	Hasbrouck Heights Boro
29	76.8	353	0	0	0	0	1.839	Medium	Little Ferry Borough
30	115.2	342	0	0	0	0	1.188	Medium	Little Ferry Borough
31	172.8	483	0	0	0	0	1.118	Medium	Little Ferry Borough
32	121.6	0	0	0	0	0	0.000	Low	Little Ferry Borough
33	44.8	781	188	464	15	81	10.349	High	Little Ferry Borough
34	102.4	0	0	0	0	0	0.000	Low	Little Ferry Borough
35	38.4	24	106	262	8	46	2.471	Medium	Little Ferry Borough
36	115.2	1024	13	32	1	6	3.646	Medium-High	Little Ferry Borough
37	102.4	289	0	0	0	0	1.129	Medium	Little Ferry Borough
38	121.6	782	0	0	0	0	2.572	Medium	Little Ferry Borough
39	57.6	96	4	10	0	2	0.723	Marginal	Little Ferry Borough

TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
40	70.4	379	0	0	0	0	2.153	Medium	Little Ferry Borough
41	25.6	18	0	0	0	0	0.281	Low	Little Ferry Borough
42	70.4	79	0	0	0	0	0.449	Low	Lyndhurst Township
43	422.4	0	0	0	0	0	0.000	Low	Lyndhurst Township
44	377.6	60	0	0	0	0	0.064	Low	Lyndhurst Township
45	396.8	0	0	0	0	0	0.000	Low	Lyndhurst Township
46	128	0	0	0	0	0	0.000	Low	Lyndhurst Township
47	390.4	4953	9	22	1	3	5.093	Medium-High	Lyndhurst Township
48	121.6	533	5	12	1	2	1.786	Medium	Lyndhurst Township
49	211.2	2303	0	0	0	0	4.362	Medium-High	Teterboro Borough
50	352	3956	1	3	0	1	4.498	Medium-High	Teterboro Borough
51	147.2	6540	4	10	0	3	17.795	High	Teterboro Borough
52	256	1433	0	0	0	0	2.239	Medium	Moonachie Borough
53	198.4	1489	54	143	4	24	3.226	Medium-High	Moonachie Borough
54	473.6	745	0	0	0	0	0.629	Marginal	Moonachie Borough
55	179.2	3081	491	1301	34	221	9.136	High	Moonachie Borough
56	288	26	5	12	1	2	0.050	Low	North Arlington Boro
57	121.6	0	1	2	0	0	0.007	Low	North Arlington Boro
58	192	0	4	9	0	2	0.017	Low	North Arlington Boro
59	198.4	445	1	2	0	0	0.901	Marginal	North Arlington Boro
60	70.4	157	0	0	0	0	0.892	Marginal	Ridgefield Borough
61	96	1128	0	0	0	0	4.700	Medium-High	Ridgefield Borough
62	224	1823	0	0	0	0	3.255	Medium-High	Ridgefield Borough
63	140.8	477	3	8	0	1	1.373	Medium	Ridgefield Borough
64	204.8	0	0	0	0	0	0.000	Low	Ridgefield Borough
65	121.6	420	0	0	0	0	1.382	Medium	Ridgefield Borough
66	153.6	0	0	0	0	0	0.000	Low	Ridgefield Borough
67	147.2	0	0	0	0	0	0.000	Low	Ridgefield Borough
68	140.8	0	0	0	0	0	0.000	Low	Ridgefield Borough
69	89.6	0	0	0	0	0	0.000	Low	Ridgefield Borough
70	89.6	82	0	0	0	0	0.366	Low	Ridgefield Park Village
71	96	266	0	0	0	0	1.108	Medium	Ridgefield Park Village
72	64	232	0	0	0	0	1.450	Medium	Ridgefield Park Village
73	70.4	0	0	0	0	0	0.000	Low	Rutherford Borough
74	32	15	3	8	0	1	0.263	Low	Rutherford Borough
75	115.2	2127	0	0	0	0	7.385	Medium-High	Rutherford Borough
76	121.6	813	0	0	0	0	2.674	Medium	Rutherford Borough
77	185.6	0	0	0	0	0	0.000	Low	Rutherford Borough
78	83.2	0	0	0	0	0	0.000	Low	Rutherford Borough
79	76.8	468	0	0	0	0	2.438	Medium	Rutherford Borough
80	89.6	445	0	0	0	0	1.987	Medium	Wood-Ridge Borough

TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
81	96	677	13	33	1	5	2.928	Medium	Wood-Ridge Borough
82	64	0	0	0	0	0	0.000	Low	Jersey City
83	160	3	1	3	0	0	0.014	Low	Jersey City
84	70.4	352	0	0	0	0	2.000	Medium	Jersey City
85	249.6	151	0	0	0	0	0.242	Low	Jersey City
86	57.6	172	0	0	0	0	1.194	Medium	Jersey City
87	38.4	0	0	0	0	0	0.000	Low	Jersey City
88	108.8	0	0	0	0	0	0.000	Low	Jersey City
89	76.8	0	0	0	0	0	0.000	Low	Jersey City
90	115.2	0	0	0	0	0	0.000	Low	Jersey City
91	115.2	633	72	192	30	30	2.850	Medium	Jersey City
92	44.8	18	0	0	0	0	0.161	Low	Kearny Town
93	153.6	622	0	0	0	0	1.620	Medium	Kearny Town
94	217.6	0	0	0	0	0	0.000	Low	Kearny Town
95	390.4	0	4	11	1	2	0.009	Low	Kearny Town
96	185.6	0	0	0	0	0	0.000	Low	Kearny Town
97	569.6	30	0	0	0	0	0.021	Low	Kearny Town
98	134.4	0	0	0	0	0	0.000	Low	Kearny Town
99	12.8	0	0	0	0	0	0.000	Low	Kearny Town
100	172.8	0	1	3	0	0	0.005	Low	Kearny Town
101	96	858	0	0	0	0	3.575	Medium-High	Kearny Town
102	320	0	0	0	0	0	0.000	Low	Kearny Town
103	147.2	0	0	0	0	0	0.000	Low	Kearny Town
104	121.6	51	0	0	0	0	0.168	Low	Kearny Town
105	185.6	490	0	0	0	0	1.056	Medium	Kearny Town
106	153.6	19	0	0	0	0	0.049	Low	Kearny Town
107	422.4	421	0	0	0	0	0.399	Low	Kearny Town
108	236.8	0	1	3	0	0	0.004	Low	Kearny Town
109	428.8	1496	0	0	0	0	1.396	Medium	Kearny Town
110	262.4	1119	0	0	0	0	1.706	Medium	Kearny Town
111	32	830	0	0	0	0	10.375	High	Kearny Town
112	140.8	1206	0	0	0	0	3.426	Medium-High	Kearny Town
113	83.2	679	0	0	0	0	3.264	Medium-High	Kearny Town
114	192	2813	0	0	0	0	5.860	Medium-High	North Bergen Twp.
115	467.2	4046	0	0	0	0	3.464	Medium	North Bergen Twp.
116	64	1485	0	0	0	0	9.281	High	North Bergen Twp.
117	83.2	31	0	0	0	0	0.149	Marginal	North Bergen Twp.
118	179.2	0	0	0	0	0	0.000	Low	North Bergen Twp.
119	121.6	0	0	0	0	0	0.000	Low	North Bergen Twp.
120	51.2	695	0	0	0	0	5.430	Medium-High	North Bergen Twp.
121	32	400	0	0	0	0	5.000	Medium-High	North Bergen Twp.
122	108.8	531	0	0	0	0	1.952	Medium	North Bergen Twp.
123	19.2	136	0	0	0	0	2.833	Medium	North Bergen Twp.

TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
124	38.4	251	0	0	0	0	2.615	Medium	North Bergen Twp.
125	217.6	5	0	0	0	0	0.009	Low	North Bergen Twp.
126	115.2	1109	0	0	0	0	3.851	Medium-High	North Bergen Twp.
127	44.8	200	0	0	0	0	1.786	Medium	North Bergen Twp.
128	121.6	1100	0	0	0	0	3.618	Medium-High	North Bergen Twp.
129	70.4	0	0	0	0	0	0.000	Low	North Bergen Twp.
130	76.8	181	368	887	52	158	4.957	Medium-High	Secaucus Town
131	38.4	78	290	699	41	125	7.139	Medium-High	Secaucus Town
132	38.4	11	249	600	35	107	5.547	Medium-High	Secaucus Town
133	32	44	190	458	27	82	5.524	Medium-High	Secaucus Town
134	64	36	279	672	39	120	3.877	Medium-High	Secaucus Town
135	70.4	0	0	0	0	0	0.000	Low	Secaucus Town
136	51.2	58	92	222	13	40	1.959	Medium	Secaucus Town
137	51.2	48	244	588	34	105	4.368	Medium-High	Secaucus Town
138	44.8	0	0	0	0	0	0.000	Low	Secaucus Town
139	38.4	9	119	287	17	51	2.690	Medium	Secaucus Town
140	44.8	5	1	2	0	0	0.063	Low	Secaucus Town
141	38.4	137	237	571	33	102	6.598	Medium-High	Secaucus Town
142	25.6	17	259	624	36	111	8.742	Medium-High	Secaucus Town
143	83.2	148	103	248	14	44	1.749	Medium	Secaucus Town
144	89.6	54	0	0	0	0	0.241	Low	Secaucus Town
145	179.2	1284	591	1424	83	254	5.629	Medium-High	Secaucus Town
146	38.4	3653	1	2	0	0	38.074	High	Secaucus Town
147	172.8	3448	0	0	0	0	7.981	Medium-High	Secaucus Town
148	83.2	1726	0	0	0	0	8.298	Medium-High	Secaucus Town
149	147.2	985	0	0	0	0	2.677	Medium	Secaucus Town
150	19.2	10	0	0	0	0	0.208	Low	Secaucus Town
151	76.8	846	400	964	56	172	8.770	Medium-High	Secaucus Town
152	147.2	6189	198	477	28	85	17.945	High	Secaucus Town
153	211.2	0	0	0	0	0	0.000	Low	Secaucus Town
154	70.4	930	224	540	31	96	7.950	Medium-High	Secaucus Town
155	70.4	472	0	0	0	0	2.682	Medium	Secaucus Town
156	102.4	924	0	0	0	0	3.609	Medium-High	Secaucus Town
157	211.2	6645	0	0	0	0	12.585	High	Secaucus Town
158	121.6	0	0	0	0	0	0.000	Low	Secaucus Town
159	89.6	484	270	651	38	116	4.685	Medium-High	Secaucus Town
160	51.2	178	4	10	1	2	1.456	Medium	Secaucus Town
161	352	616	0	0	0	0	0.700	Marginal	Secaucus Town
162	38.4	0	0	0	0	0	0.000	Low	Secaucus Town
163	83.2	0	0	0	0	0	0.000	Low	Secaucus Town
164	89.6	693	8	19	1	3	3.169	Medium-High	Secaucus Town
165	44.8	0	0	0	0	0	0.000	Low	Secaucus Town
166	70.4	491	0	0	0	0	2.790	Medium	Secaucus Town

TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
167	64	153	101	243	14	43	2.278	Medium	Secaucus Town
168	326.4	4595	28	67	4	12	5.703	Medium-High	Secaucus Town
169	89.6	0	0	0	0	0	0.000	Low	Secaucus Town
170	102.4	0	0	0	0	0	0.000	Low	Secaucus Town
171	70.4	0	0	0	0	0	0.000	Low	Secaucus Town
172	32	41	0	0	0	0	0.513	Marginal	Secaucus Town
173	147.2	2912	26	63	4	11	8.061	Medium-High	Secaucus Town
174	236.8	1294	0	0	0	0	2.186	Medium	Carlstadt Borough
175	422.4	3301	0	0	0	0	3.126	Medium-High	East Rutherford Boro
176	544	3760	0	0	0	0	2.765	Medium	Fairview Borough
177	2630.4	50	0	0	0	0	0.008	Low	Hackensack City
178	678.4	2287	0	0	0	0	1.348	Medium	Hasbrouck Heights Boro
179	1107.2	4143	0	0	0	0	1.497	Medium	Lyndhurst Township
180	332.8	6134	0	0	0	0	7.373	Medium-High	South Hackensack Township
181	953.6	2837	0	0	0	0	1.190	Medium	North Arlington Boro
182	774.4	4	0	0	0	0	0.002	Low	Palisades Park Borough
183	454.4	1047	0	0	0	0	0.922	Marginal	Ridgefield Borough
184	812.8	3720	0	0	0	0	1.831	Medium	Ridgefield Park Village
185	1152	6895	0	0	0	0	2.394	Medium	Rutherford Borough
186	569.6	1143	0	0	0	0	0.803	Marginal	Wood-Ridge Borough
187	108.8	353	0	0	0	0	1.298	Medium	Jersey City
188	76.8	410	0	0	0	0	2.135	Medium	Jersey City
189	108.8	1236	0	0	0	0	4.544	Medium-High	Jersey City
190	32	109	0	0	0	0	1.363	Medium	Jersey City
191	192	1627	0	0	0	0	3.390	Medium-High	Jersey City
192	64	80	0	0	0	0	0.500	Low	Kearny Town
193	128	614	0	0	0	0	1.919	Medium	Kearny Town
194	409.6	1895	0	0	0	0	1.851	Medium	Kearny Town
195	96	1312	0	0	0	0	5.467	Medium-High	Kearny Town
196	140.8	421	0	0	0	0	1.196	Medium	Harrison Town
197	371.2	1915	0	0	0	0	2.064	Medium	Harrison Town
198	185.6	1063	0	0	0	0	2.291	Medium	North Bergen Twp.
199	204.8	853	0	0	0	0	1.666	Medium	North Bergen Twp.
200	160	1045	0	0	0	0	2.613	Medium	North Bergen Twp.
201	147.2	1911	0	0	0	0	5.193	Medium-High	North Bergen Twp.
202	153.6	1091	0	0	0	0	2.841	Medium	North Bergen Twp.
203	51.2	314	0	0	0	0	2.453	Medium	North Bergen Twp.

Figure 2
2006 Existing Condition Transit Score by Traffic Analysis Zones

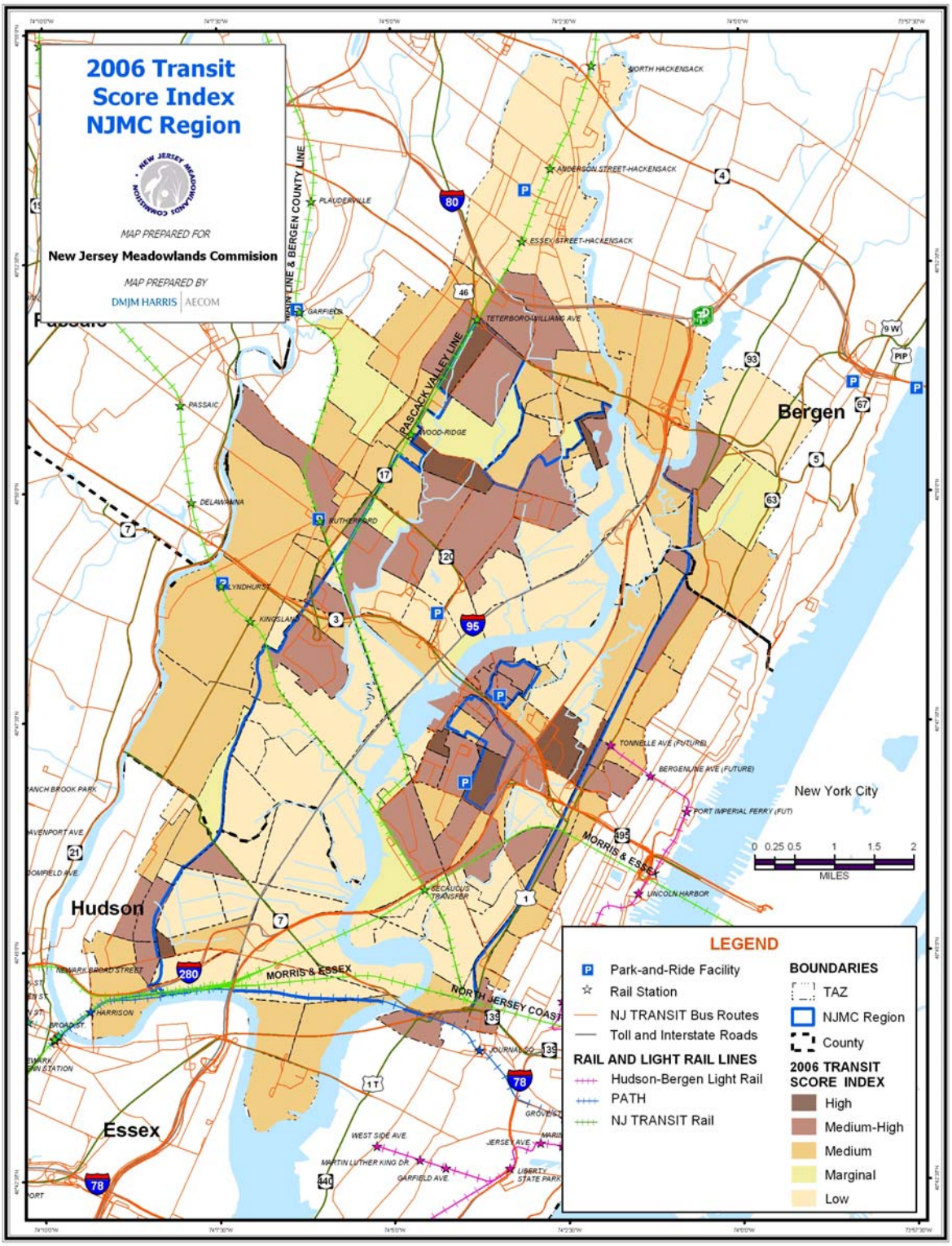


Table 2: 2030 Future Condition Transit Score by Traffic Analysis Zones

TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
1	134.4	595	0	0	0	0	1.771	Medium	Carlstadt Borough
2	166.4	157	125	308.75	16.25	0	0.899	Marginal	Carlstadt Borough
3	505.6	0	0	0	0	0	0.000	Low	Carlstadt Borough
4	409.6	5093	1	2.47	0	0.38	4.975	Medium-High	Carlstadt Borough
5	249.6	2860	0	0	0	0	4.583	Medium-High	Carlstadt Borough
6	198.4	1746	13	32.11	0	4.94	3.568	Medium-High	Carlstadt Borough
7	371.2	0	1	2.47	0	0.38	0.002	Low	Carlstadt Borough
8	230.4	82	0	0	0	0	0.142	Low	Carlstadt Borough
9	166.4	2615	12	29.64	0	4.56	6.339	Medium-High	Carlstadt Borough
10	108.8	1313	1	2.47	0	0.38	4.834	Medium-High	Carlstadt Borough
11	147.2	1043	0	0	0	0	2.834	Medium	East Rutherford Boro
12	44.8	393	0	0	0	0	3.509	Medium-High	East Rutherford Boro
13	102.4	331	225	528.75	36	0	2.833	Medium	East Rutherford Boro
14	140.8	0	0	0	0	0	0.000	Low	East Rutherford Boro
15	115.2	0	0	0	0	0	0.000	Low	East Rutherford Boro
16	108.8	2691	5	11.75	0	2	9.927	High	East Rutherford Boro
17	192	2082	0	0	0	0	4.338	Medium-High	East Rutherford Boro
18	198.4	682	614	1442.9	98.24	0	3.545	Medium-High	East Rutherford Boro
19	76.8	0	0	0	0	0	0.000	Low	East Rutherford Boro
20	262.4	0	1	2.35	0	0.4	0.003	Low	East Rutherford Boro
21	102.4	9706	0	0	0	0	37.914	High	East Rutherford Boro
22	268.8	2553	10	23.5	0	4	3.826	Medium-High	East Rutherford Boro
23	44.8	5	1	2.35	0	0.4	0.061	Low	East Rutherford Boro
24	134.4	0	0	0	0	0	0.000	Low	East Rutherford Boro
25	192	0	0	0	0	0	0.000	Low	East Rutherford Boro
26	83.2	0	0	0	0	0	0.000	Low	East Rutherford Boro
27	185.6	2053	0	0	0	0	4.425	Medium-High	Hasbrouck Heights Boro
28	102.4	362	4	10.32	0	1.52	1.443	Medium	Hasbrouck Heights Boro
29	76.8	353	0	0	0	0	1.839	Medium	Little Ferry Borough
30	115.2	342	0	0	0	0	1.188	Medium	Little Ferry Borough
31	172.8	483	0	0	0	0	1.118	Medium	Little Ferry Borough
32	121.6	0	0	0	0	0	0.000	Low	Little Ferry Borough
33	44.8	781	188	464.36	0	80.84	10.125	High	Little Ferry Borough
34	102.4	0	0	0	0	0	0.000	Low	Little Ferry Borough
35	38.4	24	106	261.82	0	45.58	2.323	Medium	Little Ferry Borough
36	115.2	1075	130	321.1	9.36	5.59	4.489	Medium-High	Little Ferry Borough
37	102.4	289	0	0	0	0	1.129	Medium	Little Ferry Borough
38	121.6	782	0	0	0	0	2.572	Medium	Little Ferry Borough
39	57.6	96	4	9.88	0	1.72	0.719	Marginal	Little Ferry Borough

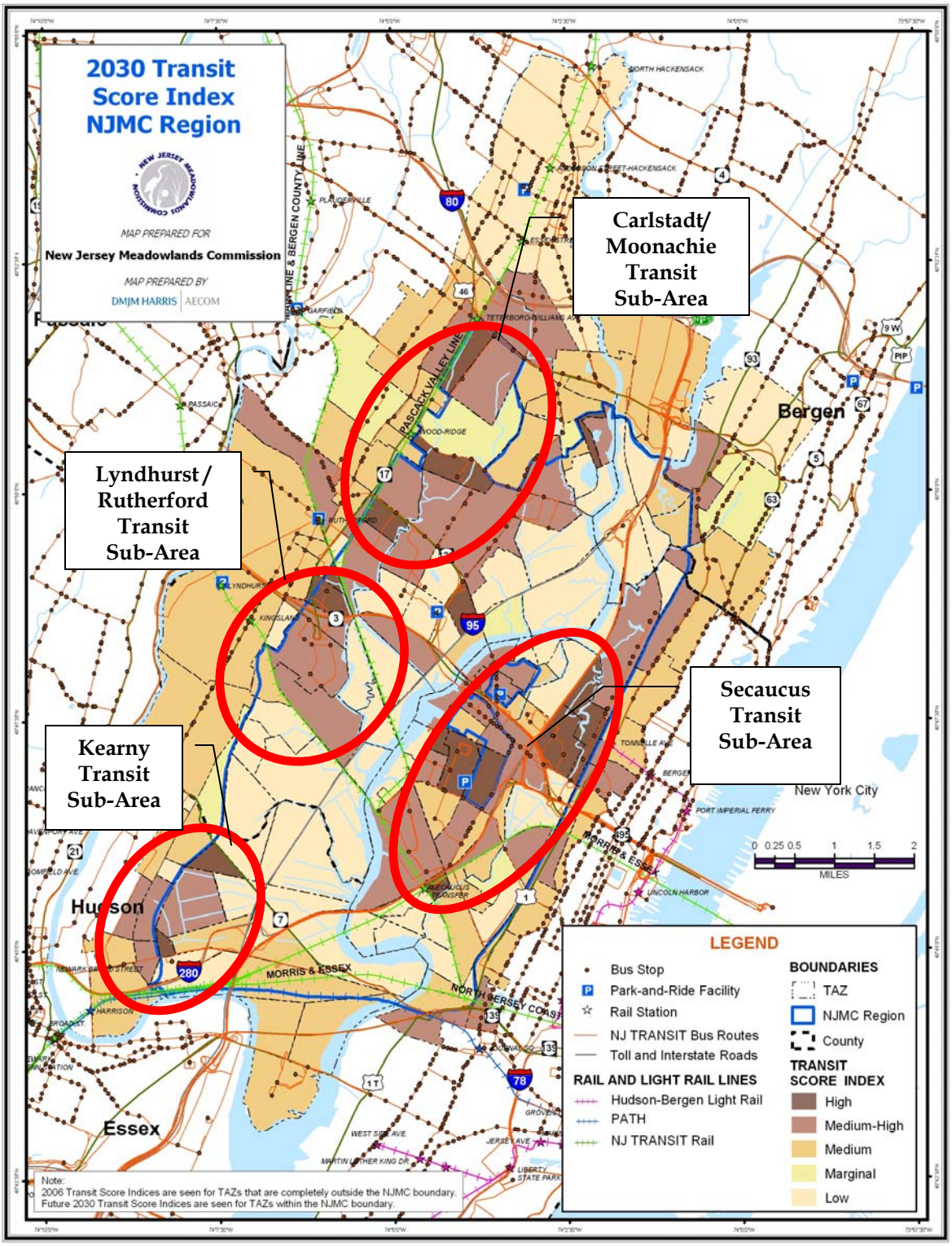
TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
40	70.4	379	0	0	0	0	2.153	Medium	Little Ferry Borough
41	25.6	18	0	0	0	0	0.281	Low	Little Ferry Borough
42	70.4	79	0	0	0	0	0.449	Low	Lyndhurst Township
43	422.4	0	0	0	0	0	0.000	Low	Lyndhurst Township
44	377.6	537	2580	6346.8	283.8	0	5.215	Medium-High	Lyndhurst Township
45	396.8	0	0	0	0	0	0.000	Low	Lyndhurst Township
46	128	0	0	0	0	0	0.000	Low	Lyndhurst Township
47	390.4	5196	337	829.02	36.08	3.42	5.912	Medium-High	Lyndhurst Township
48	121.6	533	5	12.3	0	1.9	1.783	Medium	Lyndhurst Township
49	211.2	2303	0	0	0	0	4.362	Medium-High	Teterboro Borough
50	352	3956	1	2.57	0	0.75	4.498	Medium-High	Teterboro Borough
51	147.2	8211	10	25.7	0	3	22.361	High	Teterboro Borough
52	256	1433	0	0	0	0	2.239	Medium	Moonachie Borough
53	198.4	1489	54	143.1	0	24.3	3.214	Medium-High	Moonachie Borough
54	473.6	745	0	0	0	0	0.629	Marginal	Moonachie Borough
55	179.2	3081	491	1301.15	0	220.95	9.008	High	Moonachie Borough
56	288	42	5	11.85	0	2.05	0.071	Low	North Arlington Boro
57	121.6	0	1	2.37	0	0.41	0.006	Low	North Arlington Boro
58	192	0	4	9.48	0	1.64	0.015	Low	North Arlington Boro
59	198.4	445	1	2.37	0	0.41	0.901	Marginal	North Arlington Boro
60	70.4	157	0	0	0	0	0.892	Marginal	Ridgefield Borough
61	96	1128	0	0	0	0	4.700	Medium-High	Ridgefield Borough
62	224	1823	0	0	0	0	3.255	Medium-High	Ridgefield Borough
63	140.8	477	3	8.07	0	1.17	1.371	Medium	Ridgefield Borough
64	204.8	0	0	0	0	0	0.000	Low	Ridgefield Borough
65	121.6	420	0	0	0	0	1.382	Medium	Ridgefield Borough
66	153.6	0	0	0	0	0	0.000	Low	Ridgefield Borough
67	147.2	0	0	0	0	0	0.000	Low	Ridgefield Borough
68	140.8	0	0	0	0	0	0.000	Low	Ridgefield Borough
69	89.6	0	0	0	0	0	0.000	Low	Ridgefield Borough
70	89.6	82	0	0	0	0	0.366	Low	Ridgefield Park Village
71	96	266	0	0	0	0	1.108	Medium	Ridgefield Park Village
72	64	232	0	0	0	0	1.450	Medium	Ridgefield Park Village
73	70.4	0	0	0	0	0	0.000	Low	Rutherford Borough
74	32	1605	3	7.56	0	1.17	20.132	High	Rutherford Borough
75	115.2	3657	0	0	0	0	12.698	High	Rutherford Borough
76	121.6	813	0	0	0	0	2.674	Medium-High	Rutherford Borough
77	185.6	0	0	0	0	0	0.000	Low	Rutherford Borough
78	83.2	0	0	0	0	0	0.000	Low	Rutherford Borough
79	76.8	468	0	0	0	0	2.438	Medium	Rutherford Borough
80	89.6	445	0	0	0	0	1.987	Medium	Wood-Ridge Borough

TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
81	96	677	13	32.89	0	4.68	2.920	Medium	Wood-Ridge Borough
82	64	362	0	0	0	0	2.263	Medium	Jersey City
83	160	3	1	2.67	0	0.42	0.012	Low	Jersey City
84	70.4	352	0	0	0	0	2.000	Medium	Jersey City
85	249.6	839	0	0	0	0	1.345	Medium	Jersey City
86	57.6	172	0	0	0	0	1.194	Medium	Jersey City
87	38.4	0	0	0	0	0	0.000	Low	Jersey City
88	108.8	0	0	0	0	0	0.000	Low	Jersey City
89	76.8	0	0	0	0	0	0.000	Low	Jersey City
90	115.2	255	0	0	0	0	0.885	Marginal	Jersey City
91	115.2	636	72	192.24	0	30.24	2.690	Medium	Jersey City
92	44.8	18	0	0	0	0	0.161	Low	Kearny Town
93	153.6	622	0	0	0	0	1.620	Medium	Kearny Town
94	217.6	0	0	0	0	0	0.000	Low	Kearny Town
95	390.4	0	4	11.24	0	1.6	0.008	Low	Kearny Town
96	185.6	0	0	0	0	0	0.000	Low	Kearny Town
97	569.6	30	0	0	0	0	0.021	Low	Kearny Town
98	134.4	0	0	0	0	0	0.000	Low	Kearny Town
99	12.8	0	0	0	0	0	0.000	Low	Kearny Town
100	172.8	0	1	2.81	0	0.4	0.005	Low	Kearny Town
101	96	2668	0	0	0	0	11.117	High	Kearny Town
102	320	2412	0	0	0	0	3.015	Medium-High	Kearny Town
103	147.2	0	0	0	0	0	0.000	Low	Kearny Town
104	121.6	51	0	0	0	0	0.168	Low	Kearny Town
105	185.6	490	0	0	0	0	1.056	Medium	Kearny Town
106	153.6	797	0	0	0	0	2.076	Medium	Kearny Town
107	422.4	1351	0	0	0	0	1.279	Medium	Kearny Town
108	236.8	0	1	2.81	0	0.4	0.003	Low	Kearny Town
109	428.8	1496	0	0	0	0	1.396	Medium	Kearny Town
110	262.4	1119	0	0	0	0	1.706	Medium	Kearny Town
111	32	1323	0	0	0	0	16.538	High	Kearny Town
112	140.8	1206	0	0	0	0	3.426	Medium-High	Kearny Town
113	83.2	679	0	0	0	0	3.264	Medium-High	Kearny Town
114	192	2813	0	0	0	0	5.860	Medium-High	North Bergen Twp.
115	467.2	4046	0	0	0	0	3.464	Medium-High	North Bergen Twp.
116	64	1485	0	0	0	0	9.281	High	North Bergen Twp.
117	83.2	31	0	0	0	0	0.149	Low	North Bergen Twp.
118	179.2	5368	0	0	0	0	11.982	High	North Bergen Twp.
119	121.6	0	0	0	0	0	0.000	Low	North Bergen Twp.
120	51.2	695	0	0	0	0	5.430	Medium-High	North Bergen Twp.
121	32	400	0	0	0	0	5.000	Medium-High	North Bergen Twp.
122	108.8	531	0	0	0	0	1.952	Medium	North Bergen Twp.
123	19.2	136	0	0	0	0	2.833	Medium	North Bergen Twp.

TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
124	38.4	251	0	0	0	0	2.615	Medium	North Bergen Twp.
125	217.6	5	0	0	0	0	0.009	Low	North Bergen Twp.
126	115.2	1109	0	0	0	0	3.851	Medium-High	North Bergen Twp.
127	44.8	200	0	0	0	0	1.786	Medium	North Bergen Twp.
128	121.6	1413	0	0	0	0	4.648	Medium-High	North Bergen Twp.
129	70.4	0	0	0	0	0	0.000	Low	North Bergen Twp.
130	76.8	181	368	886.88	0	158.24	4.510	Medium-High	Secaucus Town
131	38.4	78	290	698.9	0	124.7	6.435	Medium-High	Secaucus Town
132	38.4	11	249	600.09	0	107.07	4.942	Medium-High	Secaucus Town
133	32	44	190	457.9	0	81.7	4.970	Medium-High	Secaucus Town
134	64	36	312	751.92	4.62	119.97	3.828	Medium-High	Secaucus Town
135	70.4	0	0	0	0	0	0.000	Low	Secaucus Town
136	51.2	58	92	221.72	0	39.56	1.791	Medium	Secaucus Town
137	51.2	48	244	588.04	0	104.92	3.923	Medium-High	Secaucus Town
138	44.8	0	0	0	0	0	0.000	Low	Secaucus Town
139	38.4	9	119	286.79	0	51.17	2.401	Medium	Secaucus Town
140	44.8	5	1	2.41	0	0.43	0.061	Low	Secaucus Town
141	38.4	137	237	571.17	0	101.91	6.022	Medium-High	Secaucus Town
142	25.6	17	259	624.19	0	111.37	7.797	Medium-High	Secaucus Town
143	83.2	148	103	248.23	0	44.29	1.633	Medium	Secaucus Town
144	89.6	54	0	0	0	0	0.241	Low	Secaucus Town
145	179.2	1792	661	1593.01	9.8	254.13	6.726	Medium-High	Secaucus Town
146	38.4	3653	1	2.41	0	0.43	38.071	High	Secaucus Town
147	172.8	3771	0	0	0	0	8.729	High	Secaucus Town
148	83.2	1726	0	0	0	0	8.298	Medium-High	Secaucus Town
149	147.2	985	0	0	0	0	2.677	Medium	Secaucus Town
150	19.2	10	0	0	0	0	0.208	Low	Secaucus Town
151	76.8	846	400	964	0	172	8.284	Medium-High	Secaucus Town
152	147.2	6189	198	477.18	0	85.14	17.819	High	Secaucus Town
153	211.2	0	0	0	0	0	0.000	Low	Secaucus Town
154	70.4	930	224	539.84	0	96.32	7.653	Medium-High	Secaucus Town
155	70.4	472	0	0	0	0	2.682	Medium	Secaucus Town
156	102.4	924	0	0	0	0	3.609	Medium-High	Secaucus Town
157	211.2	6642	0	0	0	0	12.580	High	Secaucus Town
158	121.6	0	0	0	0	0	0.000	Low	Secaucus Town
159	89.6	415	310	747.1	5.6	116.1	4.406	Medium-High	Secaucus Town
160	51.2	178	4	9.64	0	1.72	1.449	Medium	Secaucus Town
161	352	1030	2035	4904.35	284.9	0	5.185	Medium-High	Secaucus Town
162	38.4	0	0	0	0	0	0.000	Low	Secaucus Town
163	83.2	0	0	0	0	0	0.000	Low	Secaucus Town
164	89.6	739	8	19.28	0	3.44	3.366	Medium-High	Secaucus Town
165	44.8	8074	471	1135.11	65.94	0	79.390	High	Secaucus Town
166	70.4	491	0	0	0	0	2.790	Medium	Secaucus Town

TAZ	Total Acres	Jobs	Household Units	Population	Households with 0- vehicle	Households with 1- vehicle	Transit Score	Range Description	Municipality
167	64	153	101	243.41	0	43.43	2.131	Medium	Secaucus Town
168	326.4	4477	178	428.98	21	12.04	5.870	Medium-High	Secaucus Town
169	89.6	0	0	0	0	0	0.000	Low	Secaucus Town
170	102.4	0	0	0	0	0	0.000	Low	Secaucus Town
171	70.4	0	0	0	0	0	0.000	Low	Secaucus Town
172	32	41	0	0	0	0	0.513	Marginal	Secaucus Town
173	147.2	2912	26	62.66	0	11.18	8.045	Medium-High	Secaucus Town
174	236.8	1294	0	0	0	0	2.186	Medium	Carlstadt Borough
175	422.4	3301	0	0	0	0	3.126	Medium-High	East Rutherford Boro
176	544	3760	0	0	0	0	2.765	Medium	Fairview Borough
177	2630.4	50	0	0	0	0	0.008	Low	Hackensack City
178	678.4	2287	0	0	0	0	1.348	Medium	Hasbrouck Heights Boro
179	1107.2	4143	0	0	0	0	1.497	Medium	Lyndhurst Township
180	332.8	6134	0	0	0	0	7.373	Medium-High	South Hackensack Township
181	953.6	2837	0	0	0	0	1.190	Medium	North Arlington Boro
182	774.4	4	0	0	0	0	0.002	Low	Palisades Park Borough
183	454.4	1047	0	0	0	0	0.922	Marginal	Ridgefield Borough
184	812.8	3720	0	0	0	0	1.831	Medium	Ridgefield Park Village
185	1152	6895	0	0	0	0	2.394	Medium	Rutherford Borough
186	569.6	1143	0	0	0	0	0.803	Marginal	Wood-Ridge Borough
187	108.8	353	0	0	0	0	1.298	Medium	Jersey City
188	76.8	410	0	0	0	0	2.135	Medium	Jersey City
189	108.8	1236	0	0	0	0	4.544	Medium-High	Jersey City
190	32	109	0	0	0	0	1.363	Medium	Jersey City
191	192	1627	0	0	0	0	3.390	Medium-High	Jersey City
192	64	80	0	0	0	0	0.500	Low	Kearny Town
193	128	614	0	0	0	0	1.919	Medium	Kearny Town
194	409.6	1895	0	0	0	0	1.851	Medium	Kearny Town
195	96	1312	0	0	0	0	5.467	Medium-High	Kearny Town
196	140.8	421	0	0	0	0	1.196	Medium	Harrison Town
197	371.2	1915	0	0	0	0	2.064	Medium	Harrison Town
198	185.6	1063	0	0	0	0	2.291	Medium	North Bergen Twp.
199	204.8	853	0	0	0	0	1.666	Medium	North Bergen Twp.
200	160	1045	0	0	0	0	2.613	Medium	North Bergen Twp.
201	147.2	1911	0	0	0	0	5.193	Medium-High	North Bergen Twp.
202	153.6	1091	0	0	0	0	2.841	Medium	North Bergen Twp.
203	51.2	314	0	0	0	0	2.453	Medium	North Bergen Twp.

Figure 3
2030 Future Condition Transit Score by Traffic Analysis Zones



Identified Transit Improvements:
The process of reviewing future transit scores enabled organizing the District into sub-areas for closer analysis of concentrations of relatively high Transit Scores, existing services, and potential new services and identifying potential transit service enhancements. The analysis focused on providing local transit connectivity from residential and employment concentration areas within the District to the nodes of regional transit services (like train stations). The analysis also focused on providing better local circulation options within the District

By identifying geographic groupings of TAZs with higher Transit Scores, the analysis established sub-areas for assessing potential improvements. The sub-areas are Kearny, Secaucus, Lyndhurst/Rutherford, and Carlstadt/Moonachie.

This effort reviewed existing and committed services to provide connectivity between regional transit stations/stops with key residential and employment clusters. The study considered the following types of service enhancements:
Shuttle service to and from commuter and light rail stations
Extended/revised bus routes
New bus stops
Increased bus frequency
Local circulator service
Bicycle and pedestrian connections

As a result of this work, the following transit improvements are proposed:

- Instituting the use of shuttle buses to circulate riders within the identified sub-areas throughout the District, connecting major places of employment, shopping, and recreation with existing and proposed residential development within the District.
- Providing/improving multi-modal connections to regional rail stations within the District
- Minor extension/re-routing of an existing bus route (Route #76) to serve the major employment concentration in the Paterson Plank Road Redevelopment Area.

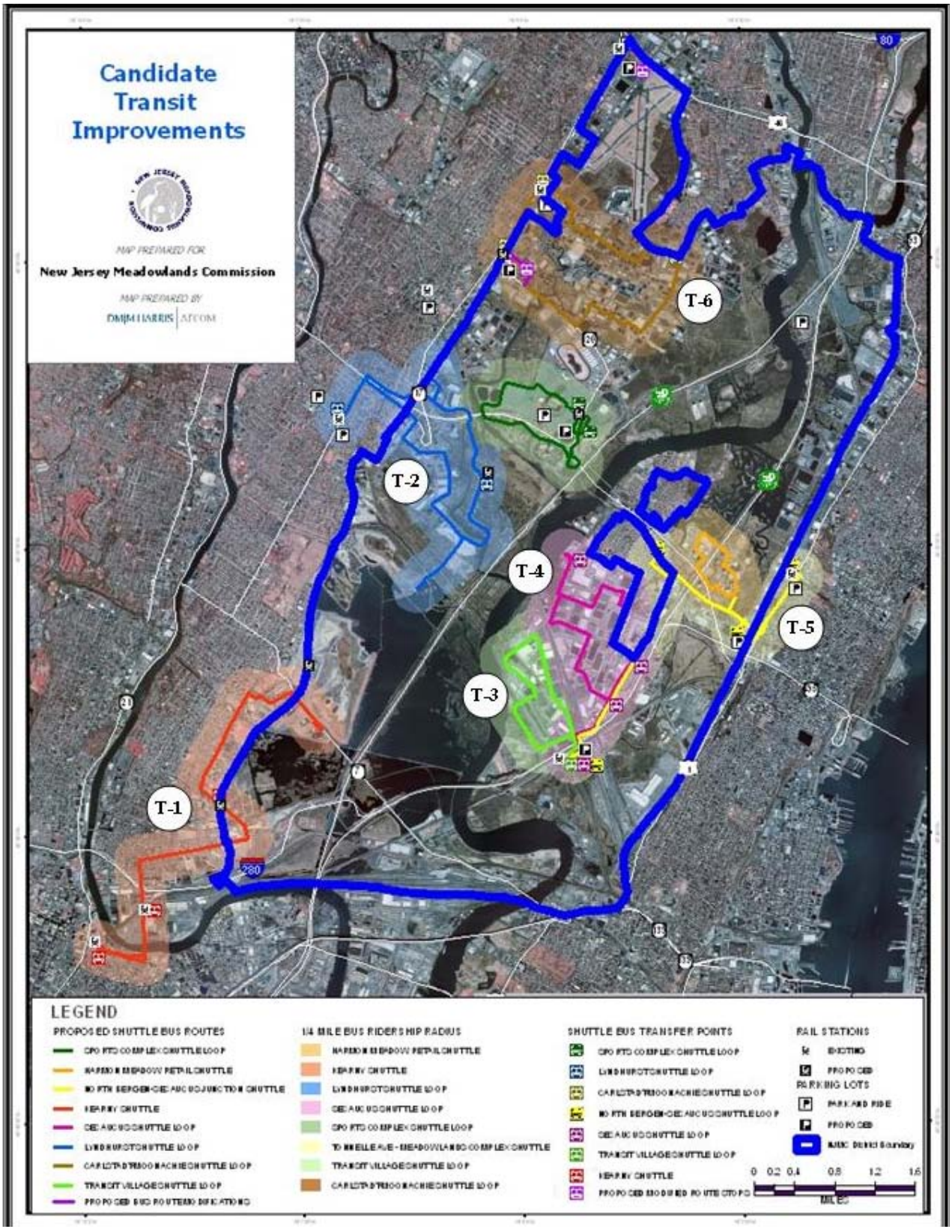
The transit shuttle routes identified are described in detail Chapter III of the Plan and are shown in Table 3 and in Figure 4.

Table 3 Transit Shuttle Routes

Ref #	Service
T-1	Kearny Shuttle
T-2	Lyndhurst Shuttle
T-3,4,& 5	Secaucus Shuttles (all 3)
T-6	Carlstadt/Moonachie Shuttle

Methodology for Determining Existing and Future Proportion of Transit Improvement Costs:
The process of determining transit needs for the District differs from the process for roadways. While assessing roadway needs is primarily driven by demand for capacity, determining transit needs considers opportunities to provide transit as a viable alternative mode of transportation, based in large part on favorable land use densities. Thus, for the purpose of this study, transit

Figure 4
Identified 2030 Transit Shuttle Routes



needs have been derived based on goals like improved connectivity, accessibility and circulation and not based on ridership projections between specific markets. Hence, recommended transit improvements have not been categorized as existing and future improvements. Instead, they are considered as a combined opportunity to improve transit options for the district - today and also in the future. Determining costs for the recommended transit improvements, however, has been proportioned based on existing and future transit score indices. This has been done to accomplish separation of public and private sector responsibilities in the fee assessment structure. The following methodology was used to determine existing and future proportions of transit improvement costs.

For each shuttle service -
1. Traffic Analysis Zones (TAZs) that will be served by each shuttle service were determined
2. Cumulative weighted Transit Score index for all these TAZs was determined under the following scenarios -
    a. 2006 existing condition
    b. 2030 future build condition
3. Existing proportion (share) of transit improvement costs was determined based on the ratio of cumulative weighted Transit Score index under existing condition to cumulative weighted Transit Score index under future condition.

Shuttle Loop	2006 Cumulative Transit Score Index	2030 Future Cumulative Transit Score Index	Existing Cost Proportion	Future Cost Proportion
Kearny Shuttle	0.76	2.03	37.4%	62.6%
Lyndhurst / Rutherford Shuttle Loop	1.56	2.90	53.8%	46.2%
Carlstadt/Moonachie Shuttle Loop	2.87	3.29	87.2%	12.8%
Transit Village Shuttle Loop, Secaucus Shuttle Loop and North Bergen-Secaucus Shuttle	3.84	5.51	69.7%	30.3%

APPENDIX III-B1

Roadway Link Improvement Analysis

Purpose of Analysis:

1. Identify District roadway segments that will need improvements under 2006 existing condition and/or 2030 future build condition to handle efficient flow of traffic during the worst case peak hour.
2. Formulate generalized improvement strategies appropriate for the magnitude of the problems observed along the roadway network.
3. Determine appropriate location specific improvement strategies to eliminate/reduce identified peak hour capacity issues.

Analysis Methodology and Tools Used:

The NJMC travel demand model was used to evaluate traffic performance along the district roadway network under the following scenarios:

- 2006 Existing Condition: This scenario represents existing condition (2006) roadway network and existing condition traffic volumes.
- 2006 Existing Condition with Committed Roadway Improvement Projects: The committed roadway improvement projects described in Chapter II will resolve some of the existing condition traffic problems. This scenario analyzes how the current and committed roadway system would handle existing traffic volumes. This analysis established the basis for determining roadway improvement needs under existing conditions.
- 2030 Build Condition: This scenario includes the existing plus committed roadway network and projected future traffic volumes.
- 2030 Build Condition with Transit Improvements: The proposed transit improvements were included in the analysis to determine the extent of performance improvement achieved by those transit improvements. This analysis established the basis for determining roadway improvement needs under future conditions.

The NJMC travel demand model served as the tool for identifying links with capacity issues under existing as well as under future scenarios. The model provided the following two indicators for each link under each scenario described above.

1. Volume-To-Capacity Ratio: The peak hour volume-to-capacity ratio (V/C) indicates whether or not each link has capacity to accommodate additional traffic volumes during peak periods. A volume-to-capacity ratio of greater than 0.90 but less than 1.0 shows that a roadway link is approaching its design hour capacity, and it reflects congested traffic conditions. A volume-to-capacity ratio greater than 1.0 indicates that volumes are beyond the link's capacity to handle traffic. For the purpose of this analysis, a volume-to-capacity ratio of 0.90 was set as a threshold to determine improvement needs.
2. Excess Volume Over Capacity: The peak hour excess volume over capacity for each link refers to the number of trips by which the link exceeds the established V/C ratio threshold, in this case, .90. This indicator provides a basis for determining the type of improvement required to eliminate or reduce the observed capacity issues in order to ensure effective and uninterrupted traffic flow.

The model outputs identified unidirectional links with a V/C ratio greater than 0.90 under the "2030 Build Condition with Transit Improvements" during either the AM or PM peak period. If a roadway segment had a V/C ratio greater than 0.90 in both AM and PM peak periods, then the higher V/C ratio was the basis for analysis. Roadway links where the District does not have jurisdiction (e.g., NJ Turnpike) were not included even if the modeling analysis showed capacity issues along these links.

Once the links were identified, the 4-hour peak period excess volume over link capacity was converted into design hour excess volume by a straight factor (i.e., conversion was done by dividing 4-hr excess volume over capacity by 4 to get the design hour excess volume over capacity). If a segment had a relatively low design hour excess volume over capacity (less than 250 vehicles), then that link was not selected as an improvement candidate. Based on this analysis, of the total 304 unidirectional NJMC model links, 71 unidirectional roadway links require some form of improvement under future conditions. These 71 links include 29 links that require improvements under the "2006 Existing Condition with Committed Projects" scenario as well. Table 1 shows the identified improvement candidate links, along with their V/C ratio and excess volume over capacity during the worst case design peak hour under the "2006 Existing Condition w/Committed Projects" and "2030 Future Build Condition w/Transit Improvements" scenarios.

Figures 1 & 2 show the V/C and excess volume over capacity network plots, respectively, for the "2006 Existing Condition with Committed Projects" scenario AM peak period (6 AM – 10 AM). Figures 3 & 4 show the V/C and excess volume over capacity network plots, respectively, for the "2006 Existing Condition with Committed Projects" scenario PM peak period (3 PM – 7 PM)

Figures 5 & 6 show V/C and excess volume over capacity network plots, respectively, for the "2030 Future Build Condition with Transit Improvement" scenario AM peak period (6 AM – 10 AM). Figures 7 & 8 show V/C and excess volume over capacity network plots, respectively, for the "2030 Future Build Condition with Transit Improvements" scenario PM peak period (3 PM – 7 PM).

Figure 1
2006 Existing Condition w/Committed Projects
AM Peak Period V/C Map

Figure 2
2006 Existing Condition w/Committed Projects
AM Peak Period Excess Volume over Capacity Map

Figure 3
2006 Existing Condition w/Committed Projects
PM Peak Period V/C Map

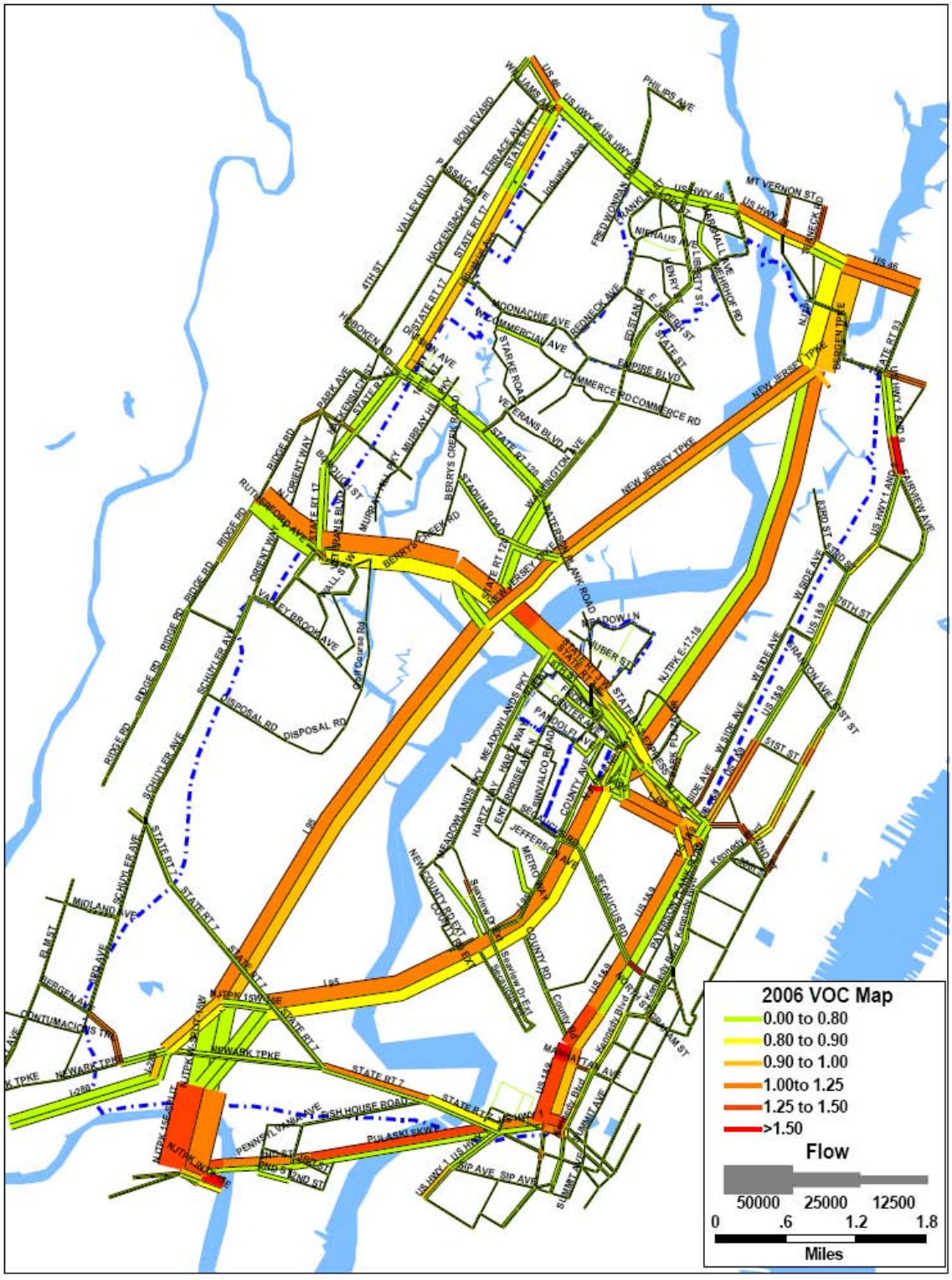


Figure 4
2006 Existing Condition w/Committed Projects
PM Peak Period Excess Volume over Capacity Map

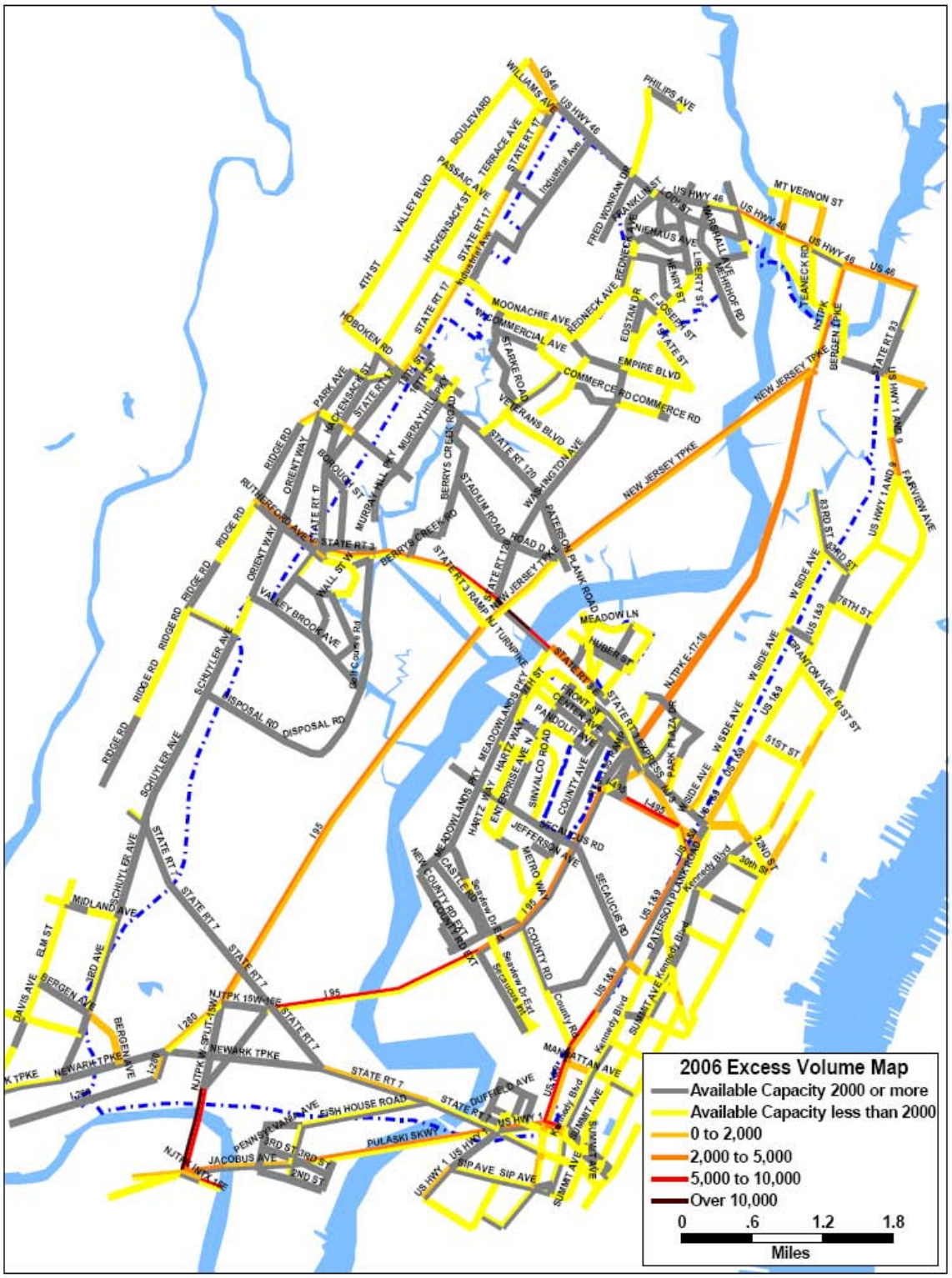


Figure 5
2030 Future Build Condition w/Transit Improvements
AM Peak Period V/C Map

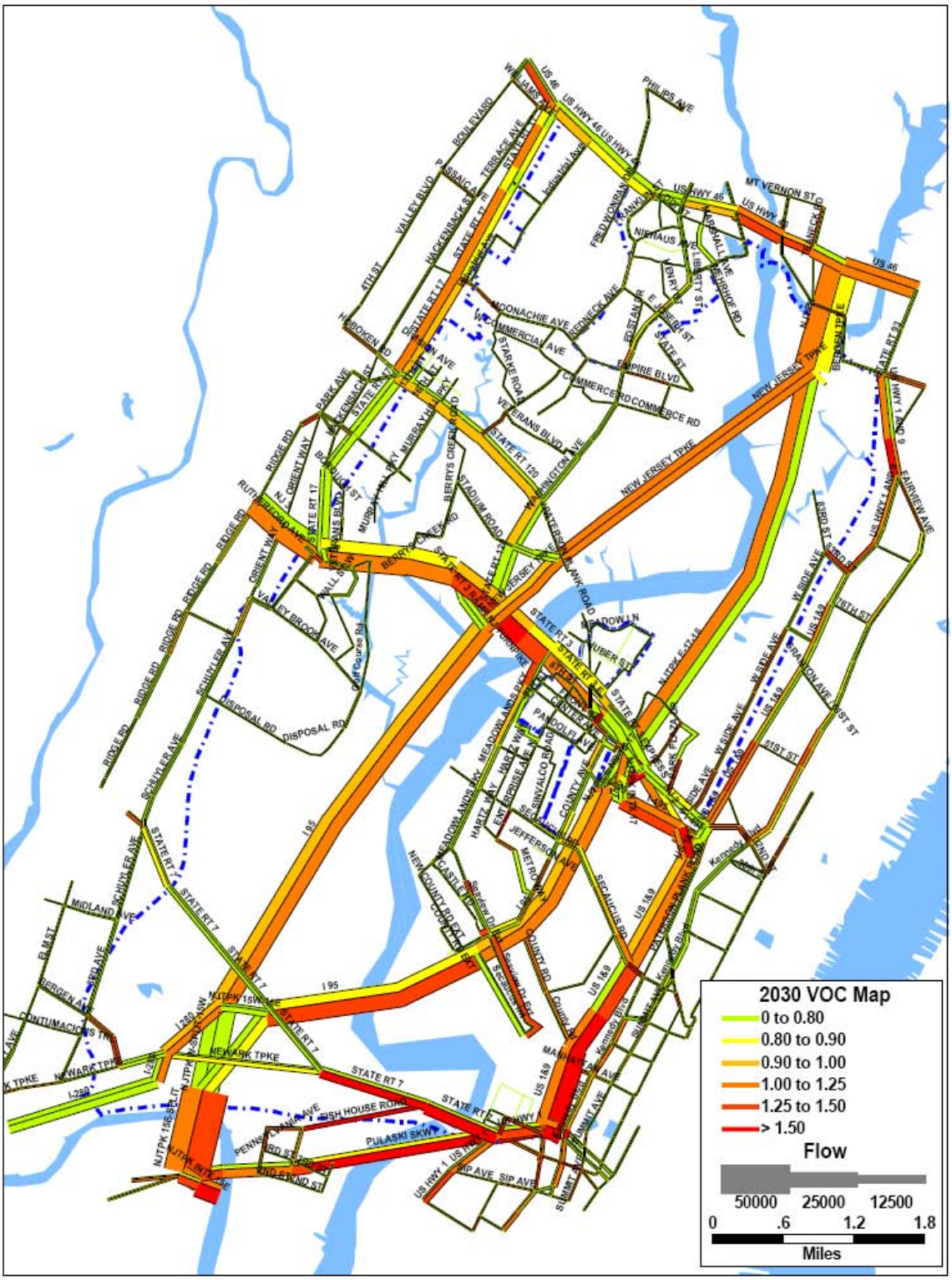


Figure 6
2030 Future Build Condition w/Transit Improvements
AM Peak Period Excess Volume over Capacity Map

Figure 7
2030 Future Build Condition w/Transit Improvements
PM Peak Period V/C Map

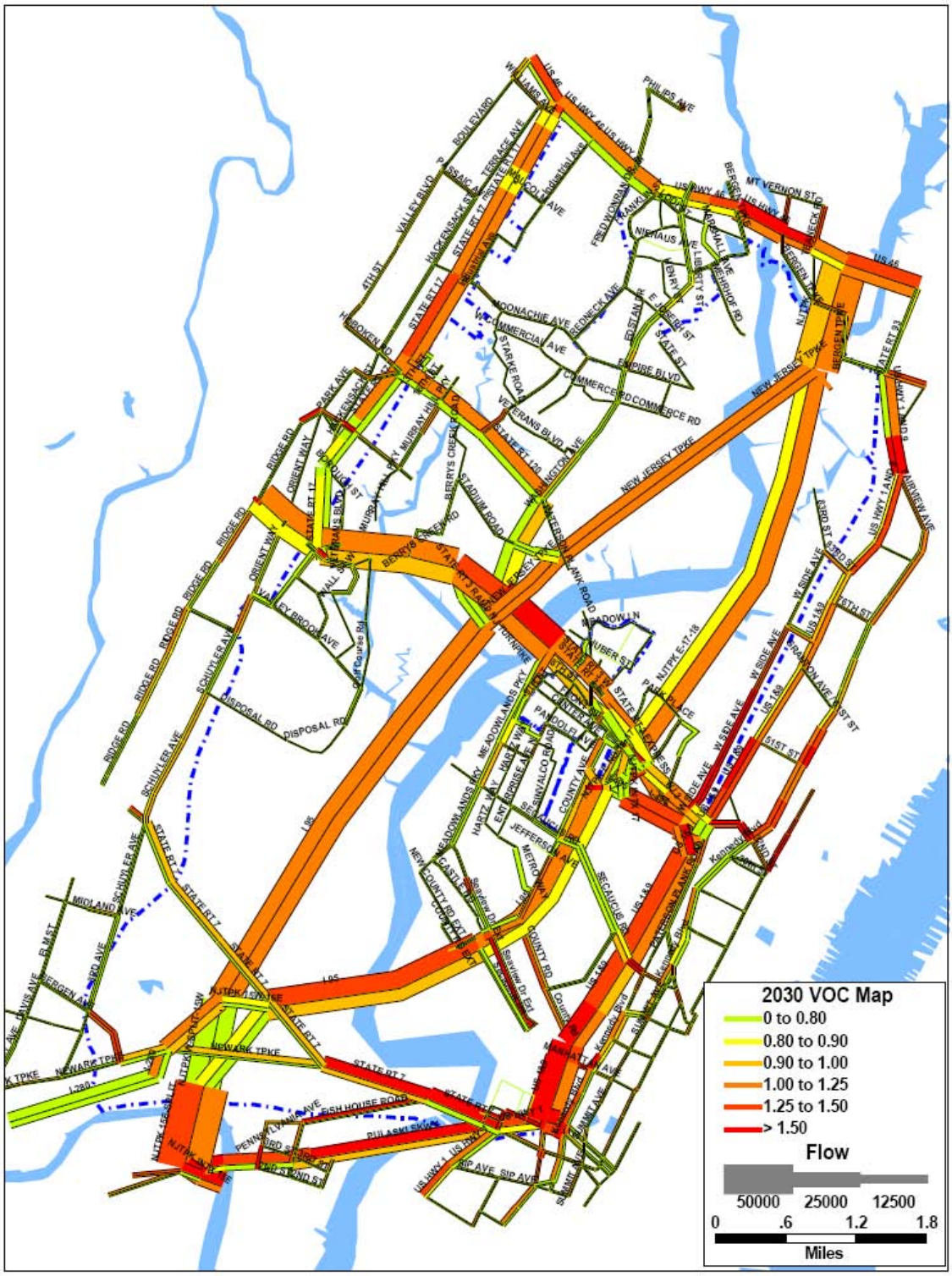


Figure 8
2030 Future Build Condition w/Transit Improvements
PM Peak Period Excess Volume over Capacity Map

Table 1: Identified Improvement Candidate Roadway Links Based on NJMC Modeling Analysis

2030 Model Link ID	Link Name	Worse Case Peak Period	Link Direction	Geographical Description of the Link	Link Design Hour V/C Ratio Under "2006 Existing Condition with Committed Projects" Scenario	Link Design Hour Excess Volume Over Capacity Under "2006 Existing Condition with Committed Projects" Scenario	Link Design Hour V/C Ratio Under "2030 Build Condition with Transit Improvements" Scenario	Link Design Hour Excess Volume Over Capacity Under "2030 Build Condition with Transit Improvements" Scenario
56685	I 280	AM	AB	NEWARK TPKE TO NJTPKE INTX 15W	0.99	268	1.05	459
56685	I 280	PM	BA	NJTPKE INTX 15W TO NEWARK TPKE	1.00	367	1.14	887
56869	STATE RT 7	AM	AB	NEWARK TPKE TO FISH HOUSE ROAD	1.09	424	1.53	1391
56869	STATE RT 7	PM	BA	FISH HOUSE ROAD TO NEWARK TPKE	1.02	326	1.83	2419
56966	STATE RT 7	AM	AB	FISH HOUSE RD TO CHARLOTTE AVE	0.99	293	1.51	1895
56966	STATE RT 7	PM	BA	CHARLOTTE AVE TO FISH HOUSE RD	0.90	-18	1.61	2588
56981	TONNELLE AVE	AM	AB	ST PAULS AVE TO TONNELLE CIRCLE	1.24	286	1.85	793
56981	TONNELLE AVE	PM	BA	TONNELLE CIRCLE TO ST PAULS AVE	1.27	366	2.37	1458
56984	US 1&9	AM	AB	TONNELLE CIRCLE TO UTICA ST	1.37	2058	1.69	3466
56984	US 1&9	PM	BA	UTICA ST TO TONNELLE CIRCLE	1.31	2093	1.88	5003
57014	COUNTY RD	AM	AB	6TH ST/POSTAL SERVICE RD TO NEW COUNTY RD	0.68	-247	1.14	262
57014	COUNTY RD	PM	BA	NEW COUNTY RD TO 6TH ST/POSTAL SERVICE RD	0.70	-259	1.33	557
57336	STATE RT 3	AM	AB	STATE RT 17 TO BERRYS CREEK RD	1.06	1021	1.14	1568
57336	STATE RT 3	PM	BA	BERRYS CREEK RD TO STATE RT 17	1.05	1134	1.21	2377
57368	STATE RT 3	AM	AB	RT3-NJTPK W RAMP TO STATE RT 120	1.15	1207	1.30	1920
57368	STATE RT 3	PM	BA	STATE RT 120 TO RT3-NJTPK W RAMP	1.13	1285	1.33	2445
57374	STATE RT 3	AM	AB	STATE RT 120 TO WEST OF MEADOWLANDS PKY	1.48	2802	1.69	3804
57374	STATE RT 3	PM	BA	WEST OF MEADOWLANDS PKY TO STATE RT 120	1.36	2618	1.76	4880
57377	STATE RT 120	AM	BA	STATE RT 120 TO GOTHAM PKY	0.76	-630	0.99	384
57377	STATE RT 120	PM	AB	GOTHAM PKY TO STATE RT 120	0.71	-971	1.16	1305
57379	GOTHAM PKY	PM	BA	VETERANS BLVD TO STATE RT 120	0.82	-67	1.34	383
57380	STATE RT 3	AM	AB	WEST OF MEADOWLANDS PKY TO MEADOWLANDS PKY	1.30	2194	1.48	3196
57380	STATE RT 3	PM	BA	MEADOWLANDS PKY TO WEST OF MEADOWLANDS PKY	1.22	2016	1.57	4278
57381	STATE RT 120	PM	AB	STADIUM RD TO PATERSON PLANK RD	0.74	-914	0.97	364
60736	NJ 3	PM	BA	PATERSON PLANK RD TO I-495	0.90	11	1.07	648
60736	NJ 3	PM	AB	I-495 TO PATERSON PLANK RD	0.99	349	1.10	732
60738	NJ 3	PM	AB	I-495 TO US 1&9	0.89	-25	1.12	569
60738	NJ 3	AM	BA	US 1&9 TO I-495	1.26	810	1.59	1531
98011	STATE RT 3	AM	AB	BERRYS CREEK RD TO RT3-NJTPK W RAMP	1.05	952	1.08	1143
98011	STATE RT 3	PM	BA	RT3-NJTPK W RAMP TO BERRYS CREEK RD	1.03	1009	1.15	1917
98012	STATE RT 3	AM	AB	STATE RT 17 TO BERRYS CREEK RD	1.06	1021	1.14	1568
98012	STATE RT 3	PM	BA	BERRYS CREEK RD TO STATE RT 17	1.05	1134	1.21	2377
98019	COUNTY AVE	PM	AB	METRO WAY TO JEFFERSON AVE	0.71	-226	1.21	375
98021	SECAUCUS RD	AM	BA	US 1&9 TO POSTAL SERVICE RD	0.74	-358	1.16	585
98026	STATE RT 120	AM	BA	16TH ST TO 20TH ST	0.72	-766	0.96	265
98026	STATE RT 120	PM	AB	20TH ST TO 16TH ST	0.68	-1099	1.06	835
98027	STATE RT 120	AM	BA	MURRAY HILL PKWY TO BERRY CREEK RD	0.76	-631	0.99	400
98027	STATE RT 120	PM	AB	BERRY CREEK RD TO MURRAY HILL PKWY	0.71	-973	1.20	1520
98028	STATE RT 120	AM	BA	13TH ST TO 16TH ST	0.74	-698	0.98	360
98028	STATE RT 120	PM	AB	16TH ST TO 13TH ST	0.69	-1047	1.12	1108

2030 Model Link ID	Link Name	Worse Case Peak Period	Link Direction	Geographical Description of the Link	Link Design Hour V/C Ratio Under "2006 Existing Condition with Committed Projects" Scenario	Link Design Hour Excess Volume Over Capacity Under "2006 Existing Condition with Committed Projects" Scenario	Link Design Hour V/C Ratio Under "2030 Build Condition with Transit Improvements" Scenario	Link Design Hour Excess Volume Over Capacity Under "2030 Build Condition with Transit Improvements" Scenario
98071	I-495	PM	BA	US 1&9 SB RAMP TO STATE RT 3	0.94	232	0.97	386
98071	I-495	AM	AB	STATE RT 3 TO US 1&9 SB RAMP	1.12	1026	1.21	1467
100055	SEAVIEW DR	PM	AB	WEST OF SEAVIEW DR (CASTLE) TO SEAVIEW DR(CASTLE)	1.05	134	1.31	373
100055	SEAVIEW DR	AM	BA	SEAVIEW DR(CASTLE) TO WEST OF SEAVIEW DR (CASTLE)	1.44	410	1.63	552
100056	ENTERPRISE AVE S	AM	AB	ENTERPRISE AVE N TO NORTH OF METRO WAY	1.50	277	1.60	324
100073	MEADOWLANDS PKY	PM	AB	BROADCAST PLAZA TO STATE RT 3	0.77	-376	1.18	808
100073	MEADOWLANDS PKY	AM	BA	STATE RT 3 TO BROADCAST PLAZA	1.05	379	1.32	1038
100096	83RD ST	PM	BA	WESTSIDE AVE TO US 1&9	0.54	-497	1.17	362
100096	83RD ST	AM	AB	US 1&9 TO WESTSIDE AVE	1.00	120	1.30	460
100099	W SIDE AVE	PM	BA	SOUTH OF 69TH ST TO 69 TH ST	0.77	-102	1.46	429
100102	W SIDE AVE	PM	BA	PATERSON PLANK RD TO 43RD ST	0.86	-27	2.01	858
100102	W SIDE AVE	PM	AB	43RD ST TO PATERSON PLANK RD	1.08	141	2.21	1007
100103	ST PAULS AVE	AM	BA	JAMES AVE TO WESTSIDE AVE	0.75	-115	1.56	499
100103	ST PAULS AVE	PM	AB	WESTSIDE AVE TO JAMES AVE	0.51	-352	1.74	762
100141	BERGEN AVE	AM	BA	SCHULER AVE TO NEWARK TPKE	1.01	97	1.18	256
100141	BERGEN AVE	PM	AB	NEWARK TPKE TO SCHULER AVE	1.08	196	1.36	500
100151	ST PAULS AVE	AM	BA	CHARLOTTE AVE TO JAMES AVE	0.75	-115	1.56	499
100151	ST PAULS AVE	PM	AB	JAMES AVE TO CHARLOTTE AVE	0.51	-352	1.74	762
100153	CHARLOTTE AVE	AM	BA	HOWELL ST TO ST PAULS AVE	0.70	-153	1.50	455
100153	CHARLOTTE AVE	PM	AB	ST PAULS AVE TO HOWELL ST	0.43	-426	1.65	680
100172	BERGEN AVE	PM	BA	SCHUYLER AVE TO NEWARK TPKE	1.13	246	1.33	468
100172	BERGEN AVE	PM	AB	NEWARK TPKE TO SCHUYLER AVE	1.11	229	1.37	509
100183	W SIDE AVE	PM	AB	SOUTH OF 69TH ST TO 43RD ST	0.69	-160	1.76	661
100183	W SIDE AVE	PM	BA	43RD ST TO SOUTH OF 69TH ST	0.73	-130	1.83	720
100197	PLAZA DR	AM	AB	PATERSON PLANK RD TO PARK PLAZA DR	1.28	290	1.30	304
101576	Seaview Dr Ext	PM	AB	NEW COUNTY RD TO SECAUCUS INTERCHANGE	0.73	-173	1.53	628
101576	Seaview Dr Ext	AM	BA	SECAUCUS INTERCHANGE TO NEW COUNTY RD	0.85	-81	1.43	885
101577	NEW COUNTY RD	AM	AB	SEAVIEW DR EXT TO CASTLE RD	0.13	-1605	1.26	756
101577	NEW COUNTY RD	PM	BA	CASTLE RD TO SEAVIEW DR EXT	0.05	-2082	1.30	977
101634	PLAZA CTR	PM	BA	PATERSON PLANK RD TO STATE RT 3 E LOCAL	0.82	-68	1.24	303
101634	PLAZA CTR	AM	AB	STATE RT 3 E LOCAL TO PATERSON PLANK RD	1.44	407	1.74	642

Various roadway segment/link improvement strategies were considered to improve performance for the links that had significant excess volume over capacity during the peak hour. These improvement strategies can be grouped into three broader types of solutions as follows:

1. Adding more capacity to roadways
2. Operating existing capacity more efficiently; and
3. Encourage travelers to use the system in less congestion-producing ways

Table 2 lists improvement strategies considered grouped by the solution type.

Table 2: Linking Solutions to Congestion Problems

Adding More Capacity	Using Existing Capacity More Efficiently	Encouraging Travel and Land Use Patterns in Less Congestion-Producing Ways
• Adding travel lanes on major freeways and streets (including truck climbing lanes on grades); • Closing gaps in the street network; • Removing bottlenecks; • Overpasses or underpasses at congested intersections; • High-occupancy vehicle (HOV) lanes	• Metering traffic onto freeways; • Optimizing the timing of traffic signals; • Faster and anticipatory responses to traffic incidents; • Providing travelers with information on travel conditions as well as alternative routes and modes; • Improved management of work zones; • Identifying weather and road surface problems and rapidly targeting responses; • Anticipating and addressing special events that cause surges in traffic; • Reversible commuter lanes; • Movable median barriers to add capacity during peak periods; • Restricting turns at key intersections; • Geometric improvements to roads and intersections; • Converting streets to one-way operations; and • Access management. • Improved roadway connectivity	• Programs that encourage transit use and ridesharing; • Curbside and parking management; • Flexible work hours; • Telecommuting programs; • Bikeways and other strategies that promote non-motorized travel; • Pricing fees for the use of travel lanes by the number of persons in the vehicle and the time of day; • Pricing fees for parking spaces by the number of persons in the vehicle, the time of day or location; • Land use controls or zoning; • Growth management restrictions such as urban growth boundaries; • Development policies that support transit-oriented designs for homes, jobsites, and shops; and • Incentives for high-density development, such as tax incentives.

Source: Traffic Congestion and Reliability: Linking Solutions to Problems, Final Report, Office of Operations, FHWA

The types of solutions to resolve traffic congestion on a particular roadway segment depend on the excess volume over capacity during the worse case design hour. For example, if the design hour excess volume over capacity is low, then the capacity issue may be resolved by improving operating efficiency of that roadway segment by implementing improvements, such as improved traffic signal coordination and signal optimization. As the extent of excess volume over capacity increases, more robust improvement strategies are required, such as improving connectivity and providing additional capacity. Figure 9 shows how various traffic congestion solution strategies could be linked with the extent of excess volume over capacity during the design hour. It should be noted that these improvement strategies are cumulative as the design excess volume over capacity increases. For example, if the design hour excess volume over capacity is more than 2,500, then all the solution strategies ranging from improving operating efficiency to encouraging alternative travel patterns should be considered and implemented appropriately.

Land use and transportation are inter-related, and many transportation issues find their roots in land use decisions. Thus, policies to encourage alternative land use patterns can be a potential solution that can help resolving transportation issues of various intensities. For example, mixed-use land use reduces the total number of trips utilizing the roadway network. Thus, encouraging alternative land uses is considered as a transportation solution across all categories of excess volume in Figure 9. However, it should be noted that this solution is more policy-based compared to the other solutions described in Figure 9 that are system-based.

Figure 9: Traffic Congestion - Linking Solution Strategies to Congestion Problems

Range for Peak Period (4-hr) Excess Volume Over Capacity	Range for Design Hour Excess Volume over Capacity	Improve Operating Efficiency				Enhance Integrated System				Encourage Alternative Travel			Encourage Alternative Land Use Patterns	
0-2000	0-500	Optimization and Coordination of Traffic Signals												
2000-5000	500-1250		Restrict Turns at Major Intersections; Geometric Improvements to Roads and Intersections			Increase Lane Widths and Provide Sufficient Shoulder Width								
5000-10000	1250-2500			Provide Ramp metering			Increase Intersection Capacity along the Corridor			Bikeways, Multiuse Paths and Other Strategies that Promote Non-Motorized Travel				
10000 and More	2500 and More				Reversible Commuter Lanes			Improve Connectivity	Consider Providing a Service Road		Programs to Encourage Transit Use and Ride Sharing like Designation of HOV lanes	Pricing Fees for the Use of Travel Lanes by the Number of Persons in the Vehicle and the Time of Day	Development Policies that Support Transit-oriented Designs for Homes, Jobsites, and Shops	Incentives for High Density Developments such as Tax Incentives

The following section shows location-specific analysis for identifying improvements for the roadway links that displayed capacity issues during the modeling analysis exercise. Various solution strategies described above were considered based on their appropriateness for each location under consideration. Factors like functional classification of roadway, its geographical location within the district, and limitations associated with it were considered for each improvement candidate location. The roadway segment analysis under existing and future scenarios displayed improvement needs along sections of the following roadway corridors and geographical areas (see Figure 10):

1. Newark Turnpike, NJ Route 7 and I-280 corridors and local roads in the vicinity in Kearny area (Locations 1-7)
2. NJ Route 3 corridor in Lyndhurst and Rutherford areas (Locations 8-10)
3. NJ Route 3 and NJ Route 495 corridors in Secaucus area (Locations 11-12)
4. NJ Route 120 / Paterson Plank Road corridor in Rutherford/East Rutherford areas (Locations 14-16)
5. Local street network in Secaucus area (Locations 17-22)
6. Westside Avenue corridor in Secaucus area (Locations 23-25)

These corridor locations and the following series of 25 worksheets encompass all 71 candidate improvement links. The worksheets present a summary of the model outputs and the analysis leading to the proposed roadway link improvements for the Plan.

AM PEAK PERIOD EXCESS VOLUME OVER CAPACITY PLOT

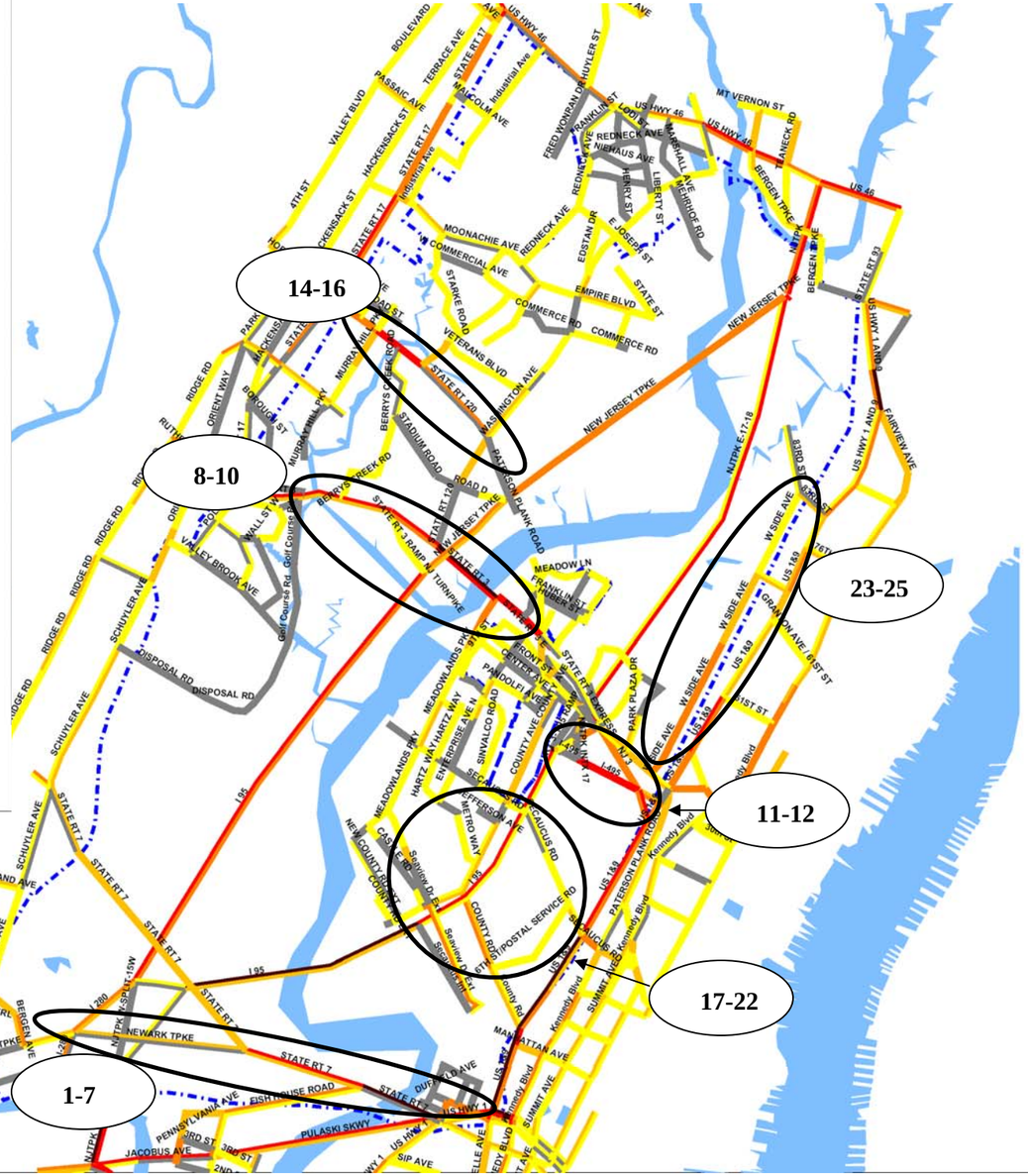


FIGURE 10

PM PEAK PERIOD EXCESS VOLUME OVER CAPACITY PLOT

***Location # 13 is a stand-alone location not shown on this map**

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
100141	Bergen Avenue	PM	Westbound	Newark Turnpike to Schuyler Avenue	1.08	196	Part of Future Build Solution	1.36	500 *(304)*	Operational improvements
100141	Bergen Avenue	AM	Eastbound	Schuyler Avenue to Newark Turnpike	1.01	97	Part of Future Build Solution	1.18	256 *(159)*	Operational improvements
100172	Bergen Avenue	PM	Westbound	Newark Turnpike to Schuyler Avenue	1.11	229	Part of Future Build Solution	1.37	509 *(380)*	Operational improvements
100172	Bergen Avenue	PM	Eastbound	Schuyler Avenue to Newark Turnpike	1.13	246	Part of Future Build Solution	1.33	468 *(222)*	Operational improvements

Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.70 Miles

Both Directions:

Discussion:

- Bergen Avenue provides access to several warehouses along this segment. Interconnectivity of these establishments should be closely studied to determine if some access points could be reduced to minimize side approach friction and to improve operating speeds and efficiency. Also, from the base aerial it looks like there are no shoulders along this segment. Provision of shoulders will improve traffic flow, especially since trucks and trailers will have improved turning radius to access the warehouses.
- Committed Projects: None

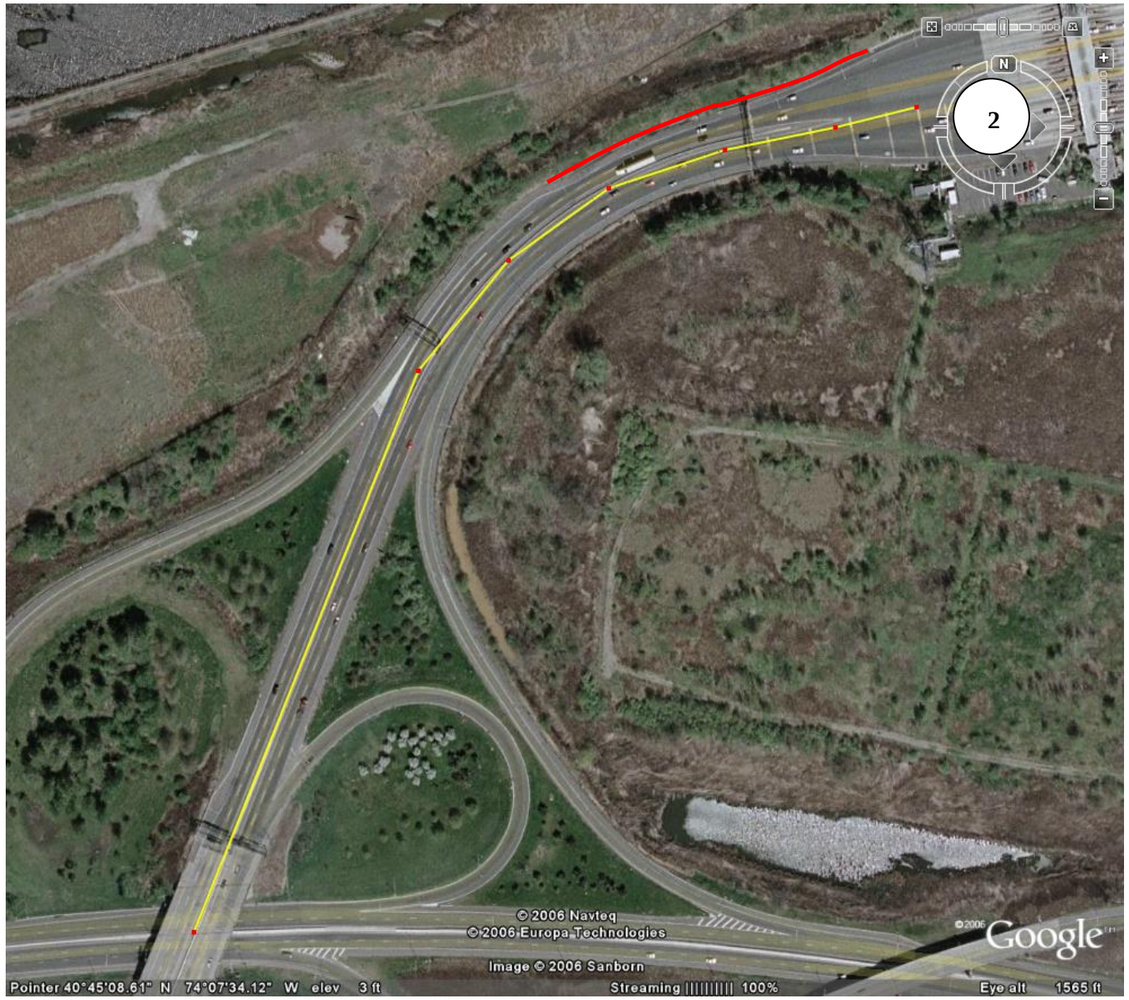
Proposed solutions:

- 2006 Existing Condition w/Committed Projects: No "stand-alone" improvements are part of future build improvement.
- 2030 Build w/Transit Improvements:

- Operational improvements to the intersection of Bergen Avenue and Newark Turnpike as well as to the intersection of Bergen Avenue and Schuyler Avenue [Schuyler Avenue is outside of the District}
- Determination of improving interconnectivity between warehouses and reducing access points.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
56685	I-280	AM	Eastbound	Newark Turnpike to NJ Turnpike Interchange 15W	0.99	268	None Suggested	1.05	459 *(191)*	None Suggested
56685	I-280	PM	Westbound	NJ Turnpike Interchange 15W to Newark Turnpike	1.00	367	Part of Future Build Solution	1.14	887 *(520)*	Extend deceleration lane for ramp to westbound Newark Turnpike all the way to NJTP Toll Booths (0.08 miles)

Note: (123) shows difference in excess volumes between existing and future build scenarios



Approximate Linear Link Distance: 0.36 Miles

Eastbound Direction

Discussion:

- Neither nature/classification of the roadway section nor excess volumes support service road provision
- No opportunity to reduce volumes by improving connectivity
- Capacity increase will not be helpful because of the Turnpike toll booths. If capacity is increased in this direction, the eastbound traffic will approach toll booths quicker but sit in toll booth queues for longer duration
- Committed project: None

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: None suggested.
- 2030 Build w/Transit Improvements: None suggested.

Westbound Direction

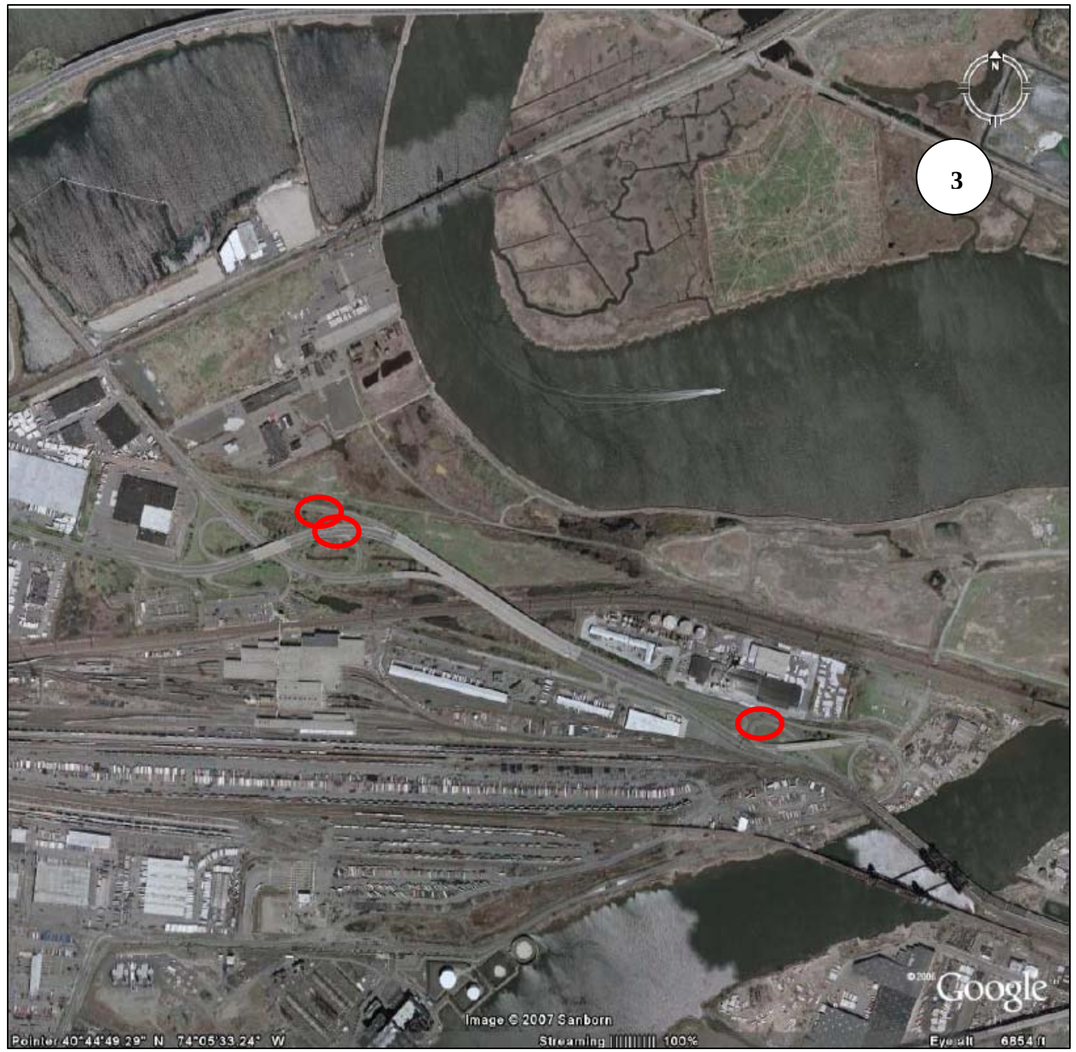
Discussion:

- Neither nature/classification of the roadway section nor excess volumes support service road provision.
- No opportunity to reduce volumes by improving connectivity
- Committed project: None

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: No stand-alone solution.
- 2030 Build w/Transit Improvements: Extend existing deceleration lane from westbound I-280 to westbound Newark Turnpike all the way to NJTP Toll Booths. This will provide a continuous exit-only lane (new pavement approximately 0.08 miles).

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
56869	State Route 7	AM	Eastbound	Newark Turnpike to Fish House Road	1.09	424	Part of future build solution	1.53	1,391 *(967)*	Eliminate taper from 4 to 3 lanes, provide continuous 4-lane section
56869	State Route 7	PM	Westbound	Fish House Road to Newark Turnpike	1.02	326	None Suggested	1.83	2,419 *(2,093)*	None suggested



Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.50 Miles

Discussion:

- In eastbound direction a frontage road is already present with slip ramps for the commercial developments
- No opportunity to reduce volumes by improving connectivity
- Committed project in Vicinity: Wittpen Bridge Replacement Project – Includes improvements to the interchange of Fish House Road (Project ID # 075)

Eastbound Direction

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: No stand-alone solution.
- 2030 Build w/Transit: Bridge metering is proposed to address any weave capacity issues that may exist after the bridge is reconstructed. Aerial shows existing roadways – roadway reconfiguration with Wittpenn Bridge Replacement Project would determine location of metering signals represented by ovals on map.

Westbound Direction:

- Committed project in vicinity (Wittpen Bridge Replacement Project including improvements to the interchange of Fish House Road) will limit the cross section of westbound segment to 3-lane. Thus, no other improvement has been suggested.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
56966	State Route 7	AM	Eastbound	Fish House Road to Charlotte Avenue	0.99	293	None	1.51	1,895 *(1,602)*	Committed Project
56966	State Route 7	PM	Westbound	Charlotte Avenue to Fish House Road	0.90	-18	None	1.61	2,588 *(2,606)*	Committed Project

Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.60 Miles

Both Directions:

Discussion:

Neither nature/classification of the roadway section nor excess volumes support service road provision

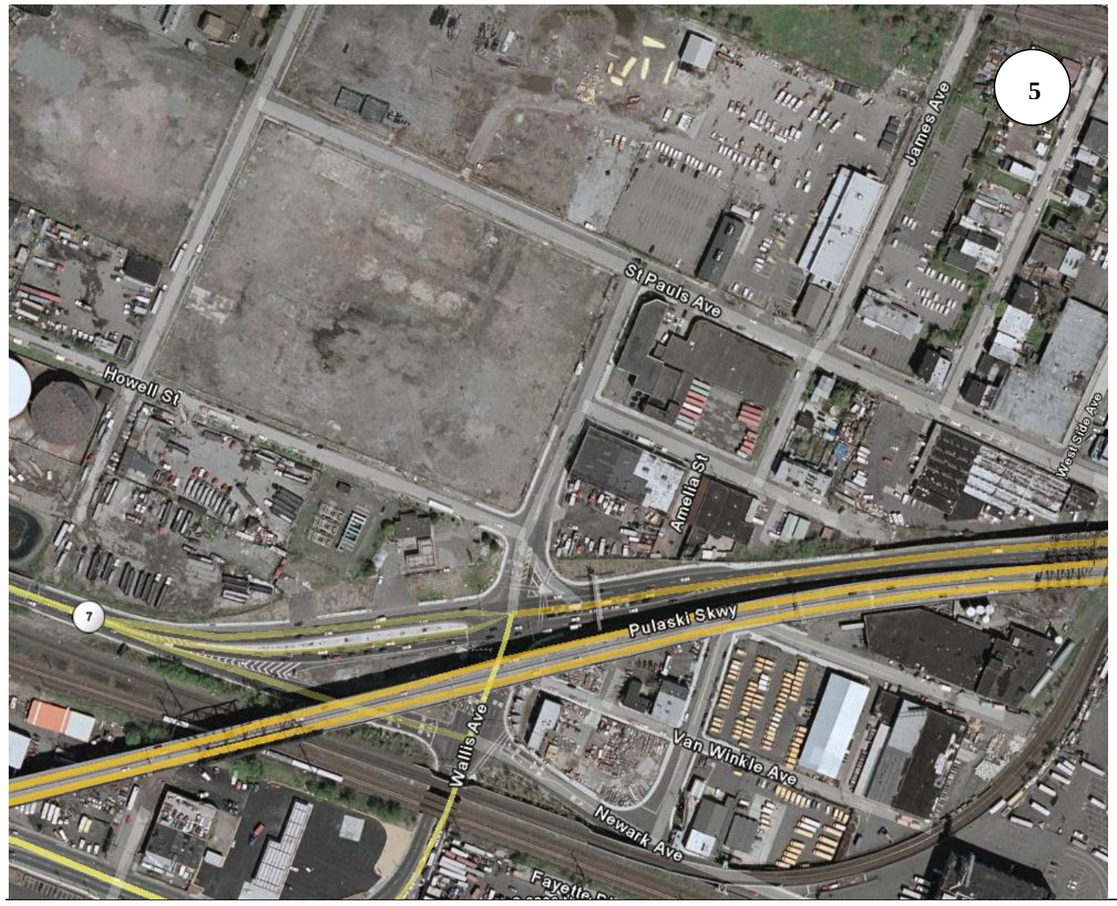
- No opportunity to reduce volumes by improving connectivity
- Committed project: Wittpen Bridge Replacement; new structure will have two 12-foot travel lanes, one 12-foot auxiliary lane and 8-10 feet shoulder in each direction. Median will be 6 foot to accommodate 2 feet left shoulders in each direction and a 2-feet raised barrier. The new structure will accommodate pedestrian and bicycle traffic. The project includes redesign of Charlotte Avenue access and Fish House Road interchange. (Project ID # 075)

Proposed solutions:

None - The committed project mentioned above will reconfigure Fish House Road interchange and Charlotte Avenue interchange in addition to replacement of Wittpen Bridge with 4 travel lanes and 2 auxiliary lanes. The committed improvements and revised traffic flow circulation is anticipated to address the same capacity needs identified along this segment.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
100153	Charlotte Avenue	AM	Northbound	Howell Street to St. Paul's Avenue	0.70	-153	None	1.50	455 *(613)*	None
100153	Charlotte Avenue	PM	Southbound	St. Paul's Avenue to Howell Street	0.43	-426	None	1.65	680 *(1,106)*	None
100151	St. Paul's Avenue	AM	Eastbound	Charlotte Street to James Avenue	0.75	-115	None	1.56	499 *(614)*	None
100151	St. Paul's Avenue	PM	Westbound	James Avenue to Charlotte Street	0.51	-352	None	1.74	762 *(1,114)*	None
100103	St. Paul's Avenue	AM	Eastbound	James Avenue to Westside Avenue	0.75	-115	None	1.56	499 *(614)*	None
100103	St. Paul's Avenue	PM	Westbound	Westside Avenue to James Avenue	0.51	-352	None	1.74	762 *(1,114)*	None

Note: (123) shows difference in excess volumes between existing and future build scenarios



Approximate Linear Link Distance:
Link #100153 - 0.10 Miles, Link #100151 – 0.07 Miles, Link #100103 – 0.10 Miles

Both Directions:
Discussion:

- Committed Projects: Projects in preliminary or final design – Route 1&9 St. Paul's Avenue bridge replacement, which includes eliminating the Charlotte Avenue circle.
- Elimination of Charlotte Avenue circle and associated operational improvements* will change the traffic flow patterns along the above network links and in vicinity. Thus, no enhancements have been suggested.

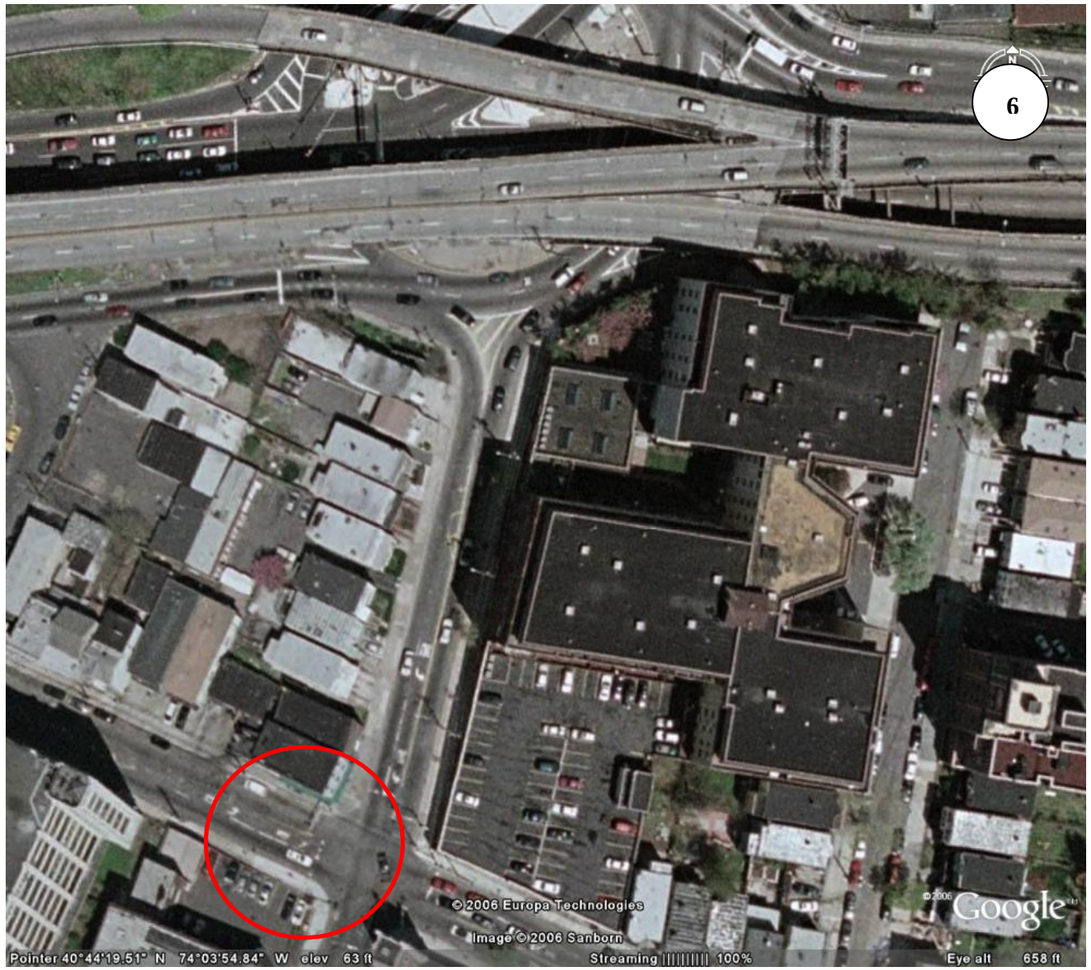
Proposed solutions:

- 2006 Existing Condition w/Committed Projects: Not required
- 2030 Build w/Transit: None

**** Refer to NJDOT's US Route 1&9T(25) St. Paul's Viaduct Replacement- Environmental Assessment/Section 4f Evaluation Report for details.***

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
56981	Tonnelle Avenue	AM	Northbound	St. Paul's Avenue to Tonnelle Circle	1.24	286	Operational Improvements	1.85	793 *(507)*	Operational Improvements
56981	Tonnelle Avenue	PM	Southbound	Tonnelle Circle to St. Paul's Avenue	1.27	366	Operational Improvements	2.37	1,458 *(1,092)*	Operational Improvements

Note: (123) shows difference in excess volumes between existing and future build scenarios



Approximate Linear Link Distance: 0.06 Miles

Both Directions:

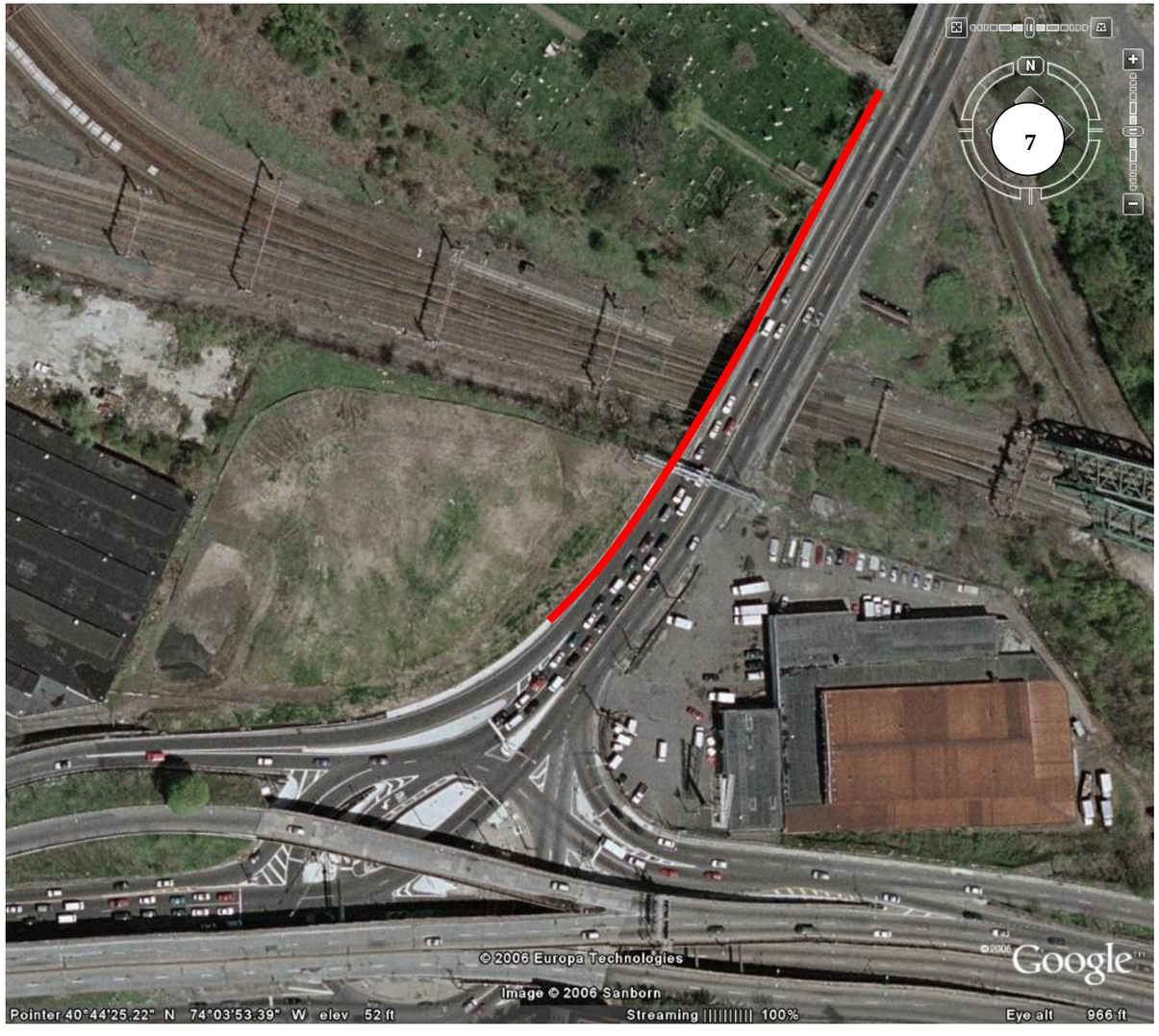
Discussion:

- Urban roadway link with houses and businesses immediately fronting the road.
- The roadway link is already a part of urban roadway grid and there is no opportunity to reduce volumes by improving connectivity.
- Committed project: Projects in preliminary or final design – Route 1&9 St. Paul's Avenue bridge replacement. (Project ID # 051)

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: Same as below.
- 2030 Build w/Transit Improvements: none – the committed project will provide operational improvements, the intersection of Tonnelle Avenue and St. Paul's Avenue is outside the Dsitrictt.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
56984	US 1 & 9	AM	Northbound	Tonnelle Circle to Utica Street	1.37	2,058	Committed Project	1.69	3,466 *(1,408)*	Committed Project
56984	US 1 & 9	PM	Southbound	Utica Street to Tonnelle Circle	1.31	2,093	Additional travel lane	1.88	5,003 *(2,910)*	Additional travel lane



Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.14 Miles

Both Directions:

Discussion:

- Nature of the roadway and land uses along the roadway segment under consideration do not support service road provision
- No opportunity to reduce volumes by improving connectivity
- Committed Projects: None.

Proposed solutions:

Northbound Direction:

- 2006 Existing Condition w/Committed Projects: None - Committed project ramp configuration will address capacity issues in northbound direction
- 2030 Build w/Transit Improvements: Same as above

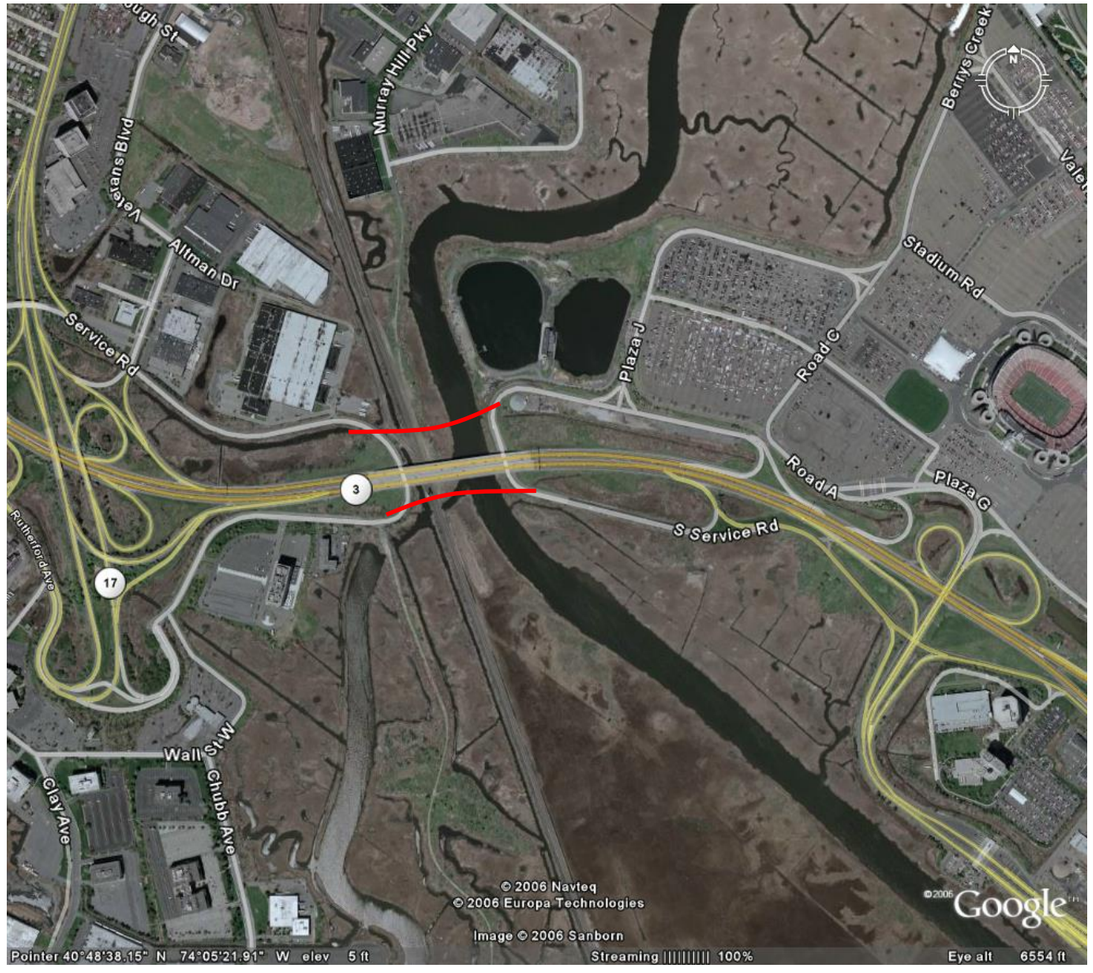
Southbound Direction:

- 2006 Existing Condition w/Committed Projects: one additional travel lane
- 2030 Build w/Transit Improvements: two additional travel lanes

Issues: Structure over the rail lines; widening will be required to accommodate additional travel lanes. The NJDOT Portway program has proposed to build a new road parallel to and east of US 1&9 between St. Paul's Avenue and Secaucus Road. Constructing this road may mitigate the need for the above proposed solutions.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
57336	State Route 3	AM	Eastbound	State Route 17 to Berry's Creek Road	1.06	1,021	Part of future build solution	1.14	1,568 *(547)*	Improve connectivity
57336	State Route 3	PM	Westbound	Berry's Creek Road to State Route 17	1.05	1,134	Part of future build solution	1.21	2,377 *(1,243)*	Improve connectivity
98011	State Route 3	AM	Eastbound	Berry's Creek Road to NJ Turnpike West Ramp	1.05	952	Part of future build solution	1.08	1,143 *(191)*	Improve connectivity
98011	State Route 3	PM	Westbound	NJ Turnpike West Ramp to Berry's Creek Road	1.03	1.009	Part of future build solution	1.15	1,917 *(908)*	Improve connectivity
98012	State Route 3	AM	Eastbound	State Route 17 to Berry's Creek Road	1.06	1.021	Part of future build solution	1.14	1,568 *(547)*	Improve connectivity
98012	State Route 3	PM	Westbound	Berry's Creek Road to State Route 17	1.05	1,134	Part of future build solution	1.21	2,377 *(1,243)*	Improve connectivity

Note: (123) shows difference in excess volumes between existing and future build scenarios



Approximate Linear Link Distance: 1.20 Miles

Both Directions:

Discussion:

- This section of Route 3 does have eastbound and westbound service roads. However they are not connected across the river. If connection is provided between the service road segments on the both sides of the river with a bridge structure located south of existing Route 3 bridge, it will reduce traffic on Route 3 segments in this area.
- Committed Projects: None

Proposed solutions:

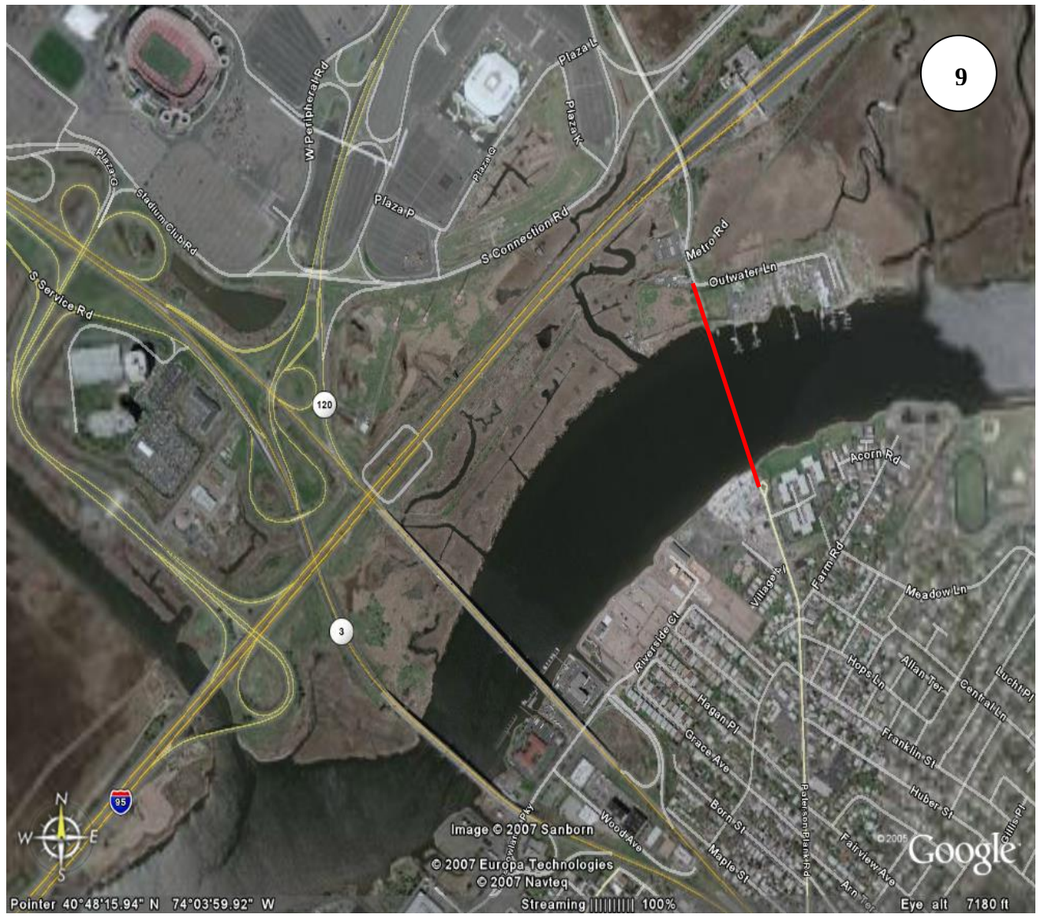
- 2006 Existing Condition w/Committed Projects: No stand-alone solution.
- 2030 Build w/Transit Improvements:

Improved connectivity –

- Two bridge structures across Berry's Creek connecting service road segments (These structures will provide one way access across the creek and thus would not require any additional ramping)

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
57368	State Route 3	AM	Eastbound	NJ Turnpike West Ramp to State Route 120	1.15	1,207	Part of future build solution	1.30	1,920 *(713)*	Improve connectivity
57368	State Route 3	PM	Westbound	State Route 120 to NJ Turnpike West Ramp	1.13	1,285	Part of future build solution	1.33	2,445 *(1,160)*	Improve connectivity
57374	State Route 3	AM	Eastbound	State Route 120 to West of Meadowlands Parkway	1.48	2,802	Part of future build solution	1.69	3,804 *(1,002)*	Improve connectivity
57374	State Route 3	PM	Westbound	West of Meadowlands Parkway to State Route 120	1.36	2,618	Part of future build solution	1.76	4,880 *(2,262)*	Improve connectivity
57380	State Route 3	AM	Eastbound	West of Meadowlands Pkwy to Meadowlands Pkwy	1.30	2,194	Part of future build solution	1.48	3,196 *(1,002)*	Improve connectivity
57380	State Route 3	PM	Westbound	Meadowlands Pkwy to West of Meadowlands Pkwy	1.22	2,016	Part of future build solution	1.57	4,278 *(2,262)*	Improve connectivity

Note: (123) shows difference in excess volumes between existing and future build scenarios



Approximate Linear Link Distance: 1.20 Miles

Both Directions:

Discussion:

- This section of Route 3 has an eastbound service road west of the western spur of the NJ Turnpike which continues to merge into northbound Route 120. There is no service road on the westbound side.
- If a structure is provided across the river to connect Paterson Plank Road segments on the either side of the river, it might change local traffic flow to slightly reduce excess volume burden on Route 3.
- Committed Projects: The Meadowlands Regional Transportation Improvements will provide for regional transportation improvements to Route 3, Route 17, Route 120, NJ Turnpike and other local roads. The NJ Turnpike Authority will contribute $31,000,000, the NJDOT will contribute $21,500,000, the NJ Sports and Exposition Authority will contribute $3,250,000, and the developer, Mills/Mack-Cali, will contribute $15,500,000 toward these improvements. A project to improve the ramps from Route 120 southbound to Route 3 eastbound is scheduled to go out to bid in mid-2007.

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: No stand-alone solution
- 2030 Build w/Transit Improvements: Improved connectivity –

- Consider continuing eastbound service road across the river to connect at the intersection of Meadowlands Parkway and EB Route 3 ramps.
- Build a structure across the river connecting Paterson Plank Road segments on the either side.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
100073	Meadowlands Parkway	PM	Northbound	Broadcast Plaza to State Route 3	0.77	-376	None	1.18	808 *(1,184)*	Operational Improvements
100073	Meadowlands Parkway	AM	Southbound	State Route 3 to Broadcast Plaza	1.05	379	None: Minimal Excess Volume	1.32	1,038 *(659)*	Operational Improvements

Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.30 Miles

Both Directions:

Discussion:

- Ramps from WB and EB Route 3 connect to this segment. Both these intersections are signalized. In addition, the intersection at Harmon Plaza is signalized. The Broadcast Plaza intersection can be signalized, and these four intersections should be then optimized and coordinated to improve the flow of traffic along this segment.
- Committed Projects: None.

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: Not required
- 2030 Build w/Transit Improvements:

- Optimize and coordinate signals at Route 3 ramps, Broadcast Plaza, and Harmon Plaza
- Provide operational improvements at the intersections in terms of storage lanes to maximize traffic flow through the intersections (see intersection analysis).

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
60736	State Route 3	PM	Eastbound	Paterson Plank Road to I-495	0.90	11	None	1.07	648 *(637)*	None Suggested
60736	State Route 3	PM	Westbound	I-495 to Paterson Plank Road	0.99	349	None	1.10	732 *(383)*	None Suggested
60738	State Route 3	PM	Eastbound	I-495 to US 1 & 9	0.89	-25	None	1.12	569 *(594)*	None Suggested
60738	State Route 3	AM	Westbound	US 1 & 9 to I-495	1.26	810	Part of future build solution	1.59	1,531 *(721)*	Provide Additional Travel Lane

Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.80 Miles

Westbound Direction:

Discussion:

- This section of Route 3 has multiple ramps.
- Committed Projects: None

Proposed solutions: (between US 1&9 and I-495)

- 2006 Existing Condition w/Committed Projects: No stand-alone solution.
- 2030 Build w/Transit Improvements: Provide an additional a travel lane up to westbound loop ramp from westbound Route 3 to Westbound I-495/ Turnpike Approach

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
98071	I-495	AM	Eastbound	State Route 3 to US 1 & 9 SB Ramp	1.12	1,026	Part of future build solution	1.21	1,467 *(441)*	Travel lane addition
98071	I-495	PM	Westbound	US 1 & 9 SB Ramp to State Route 3	0.94	232	None	0.97	386 *(154)*	None

Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.30 Miles

Eastbound Direction:

Discussion:

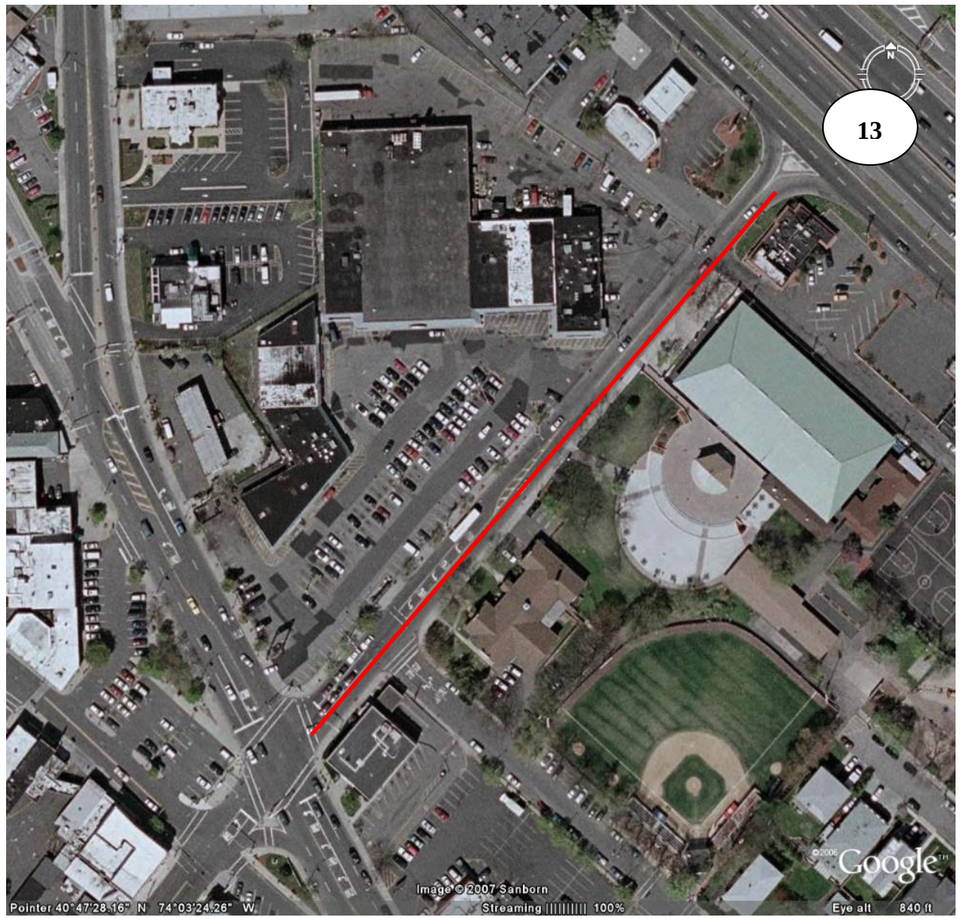
- Nature of the roadway segment (on structure) does not support service road provision
- No opportunity to reduce volumes by improving connectivity
- Committed project: None

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: No stand-alone solution.
- 2030 Build w/Transit: Provide an additional lane

Issues: Structure over Tonnelle Avenue and Railroad tracks would require widening.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
101634	Plaza Center	AM	Southbound	State Route 3 Local to Paterson Plank Road	1.44	407	Part of future build solution	1.74	642 *(235)*	Parking lane conversion to travel lane during directional peak period only
101634	Plaza Center	PM	Northbound	Paterson Plank Road to State Route 3 Local	0.82	-68	None	0.24	303 *(371)*	Parking lane conversion to travel lane during directional peak period only



Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.17 Miles

Both Directions:

Discussion:

- There is no opportunity to improve connectivity.
- Committed Projects: None.

Proposed solutions:

Southbound Direction:

- 2006 Existing Condition w/Committed Projects: No stand-alone solution
- 2030 Build w/Transit Improvements: Consider providing a second full lane by combining through movement and left turns in inner lane.

Northbound Direction:

- 2006 Existing Condition w/Committed Projects: Not required.
- 2030 Build w/Transit Improvements: Not required.

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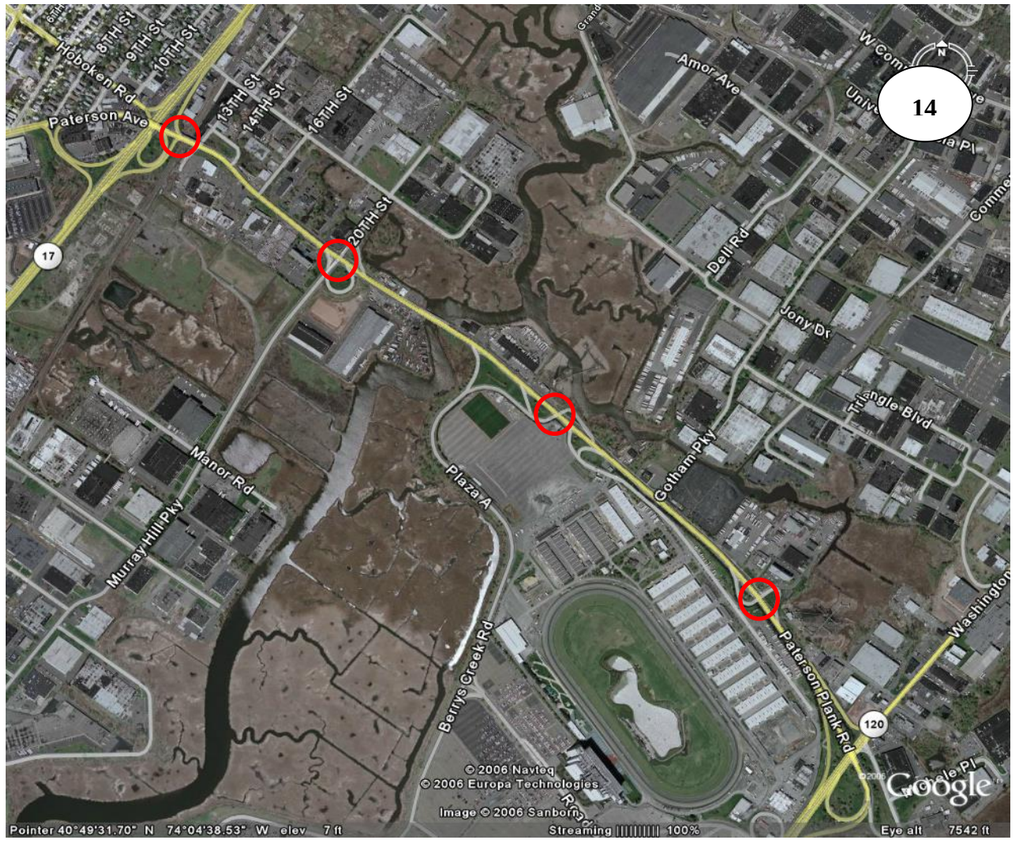
2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
98026	State Route 120	AM	Eastbound	16th street to 20th Street	0.72	-766	None	0.96	265 *(1,031)*	TIP
98026	State Route 120	PM	Westbound	20th Street to 16th Street	0.68	-1,099	None	1.06	835 *(1,934)*	TIP
98027	State Route 120	AM	Eastbound	Murray Hill Parkway to Berry Hill Road	0.76	-631	None	0.99	400 *(1,031)*	TIP
98027	State Route 120	PM	Westbound	Berry Hill Road to Murray Hill Parkway	0.71	-973	None	1.20	1,520 *(2,493)*	TIP
98028	State Route 120	AM	Eastbound	13th Street to 16th street	0.74	-698	None	0.98	360 *(1,058)*	TIP
98028	State Route 120	PM	Westbound	16th Street to 13th Street	0.69	-1,047	None	1.12	1,108 *(2,155)*	TIP
57377	State Route 120	PM	Eastbound	Gotham Parkway to State Route 120	0.76	-630	None	0.99	384 *(1,014)*	TIP
57377	State Route 120	AM	Westbound	State Route 120 to Gotham Parkway	0.71	-971	None	1.16	1,305 *(2,276)*	TIP

Note: (123) shows difference in excess volumes between existing and future build scenarios

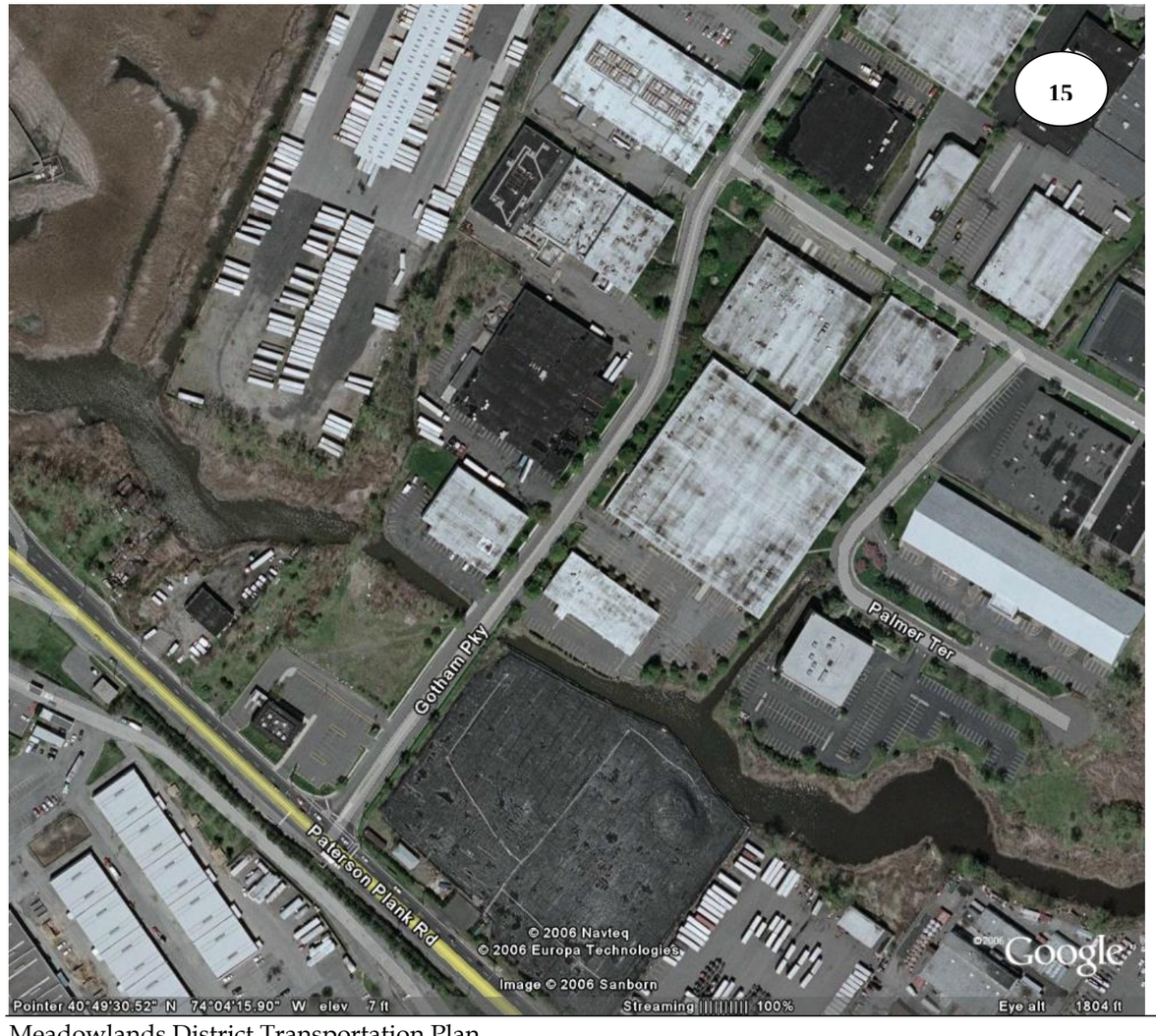


Approximate Linear Link Distance: 1.60 Miles

Committed Project: Paterson Plank Road Improvements (Project ID # 04326B)
This improvement entails the widening Paterson Plank Road as well as complimentary intersection improvements. Problems include intersection bottlenecks at Murray Hill Blvd. and Gotham Parkway. Improvements include widening the intersections to accommodate additional lanes through the intersections on Paterson Plank Road and constructing an exclusive right turn lane from Paterson Plank Road to Gotham Parkway, thereby eliminating right turning movements from the through lane.

Other potential solutions:
- Improve optimization and coordination of signals along the corridor

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
57379	Gotham Parkway	PM	Southbound	Veterans Blvd. to State Route 120	0.82	-67	None	1.34	383 *(450)*	TIP Project improvements

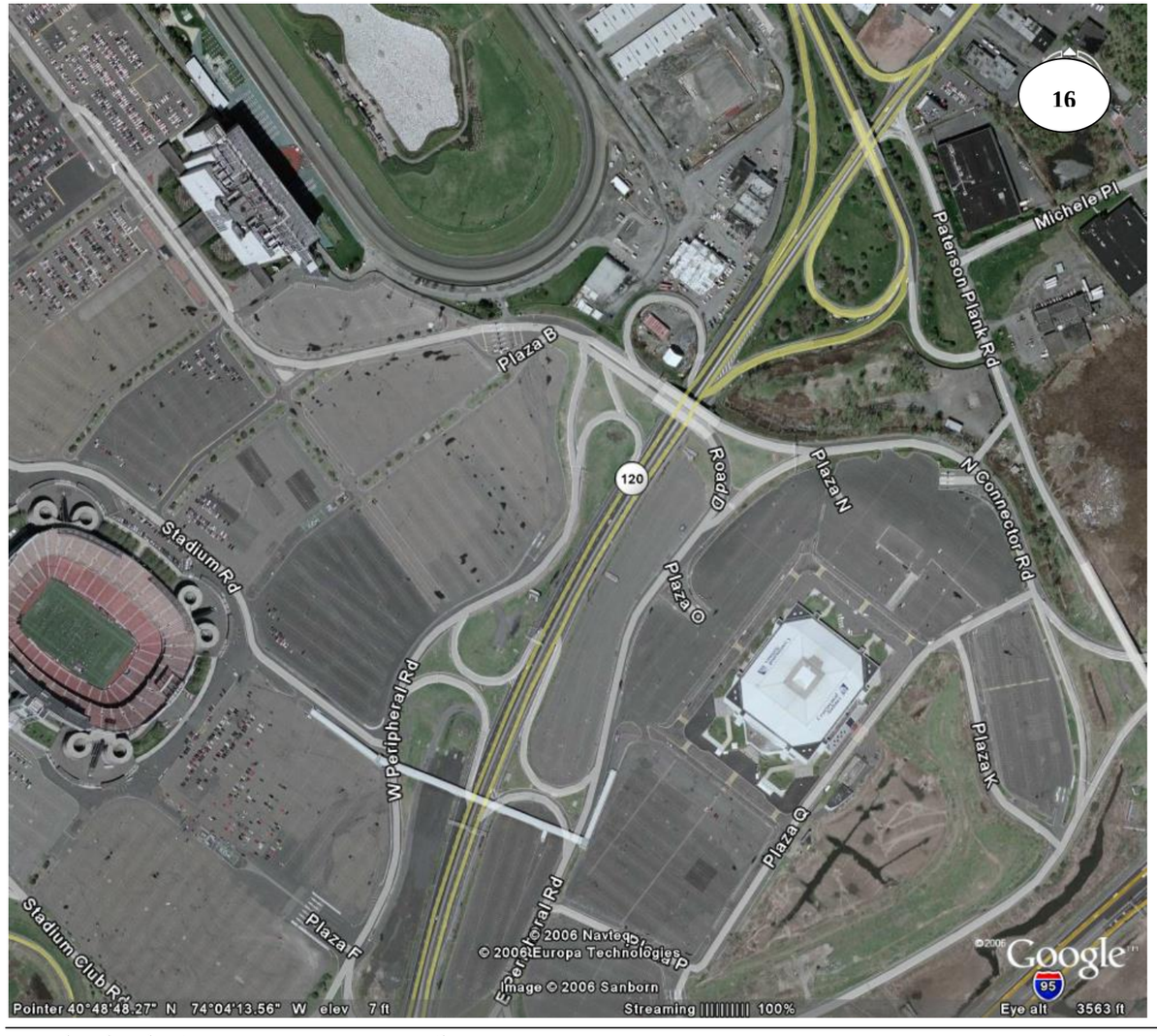


Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.27 Miles

Committed Project: Paterson Plank Road Improvements (Project ID # 04326B)
This improvement entails widening Paterson Plank Road, as well as complimentary intersection improvements. Problems include an intersection bottlenecks at Murray Hill Blvd. and Gotham Parkway. Improvements include widening the intersections to accommodate additional lanes through the intersections on Paterson Plank Road and constructing an exclusive right turn lane from Paterson Plank Road to Gotham Parkway, thereby eliminating right turning movements from the through lane.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
57381	State route 120	PM	Northbound	Stadium Road to Paterson Plank Road	0.74	-914	None	0.97	364 *(1,278)*	None Suggested



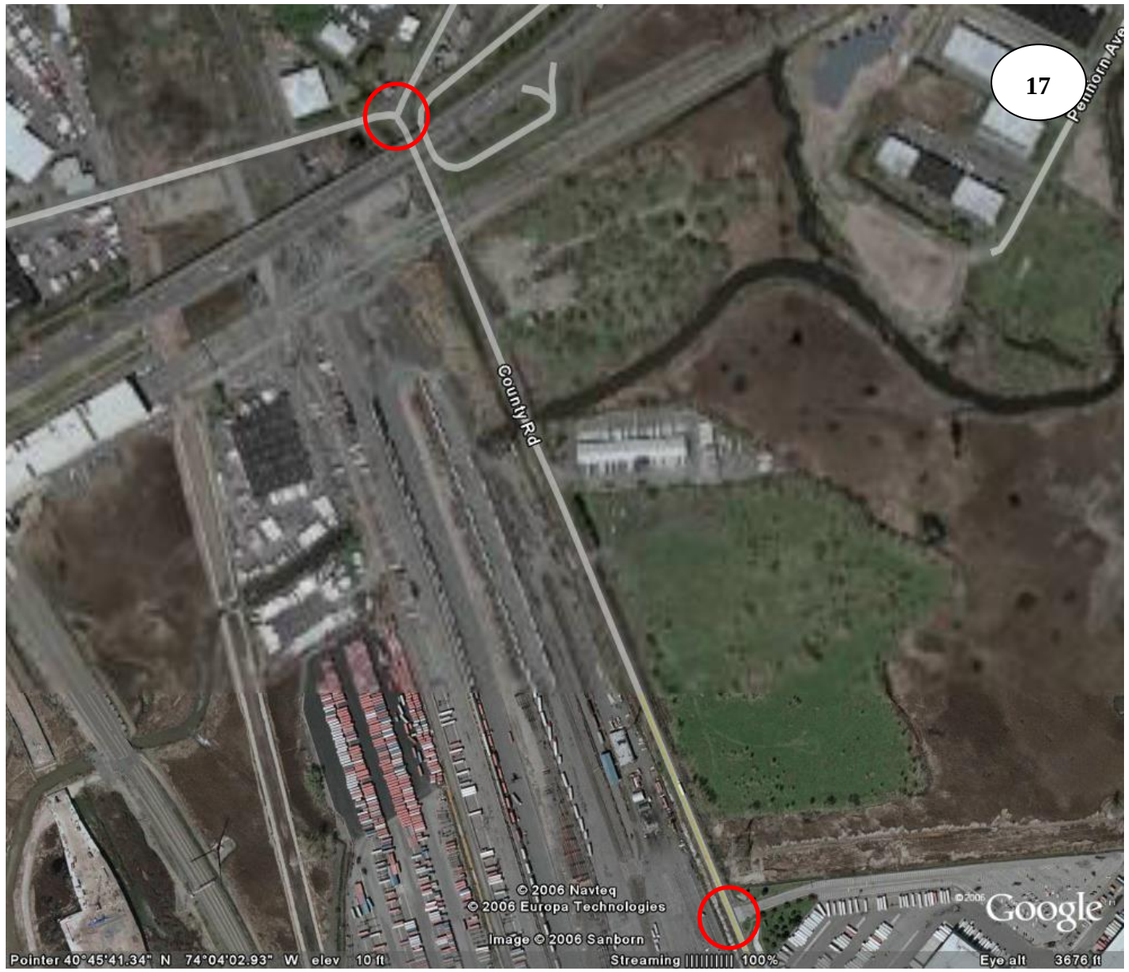
Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.50 Miles

Discussion:

• With the Xanadu development project, there are several proposed transportation improvements in this area. These improvements have not been considered in the build run as they are not committed improvements yet. However, these improvements will help solve the excess volume problem identified along this link.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
57014	County Road	AM	Northbound	6th Street/Postal Service Road to New County Road	0.68	-247	None	1.14	262 *(509)*	Operational Improvements
57014	County Road	PM	Southbound	New County Road to 6th Street/ Postal Service Road	0.70	-259	None	1.33	557 *(816)*	Operational Improvements



Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.65 Miles

Both Directions:

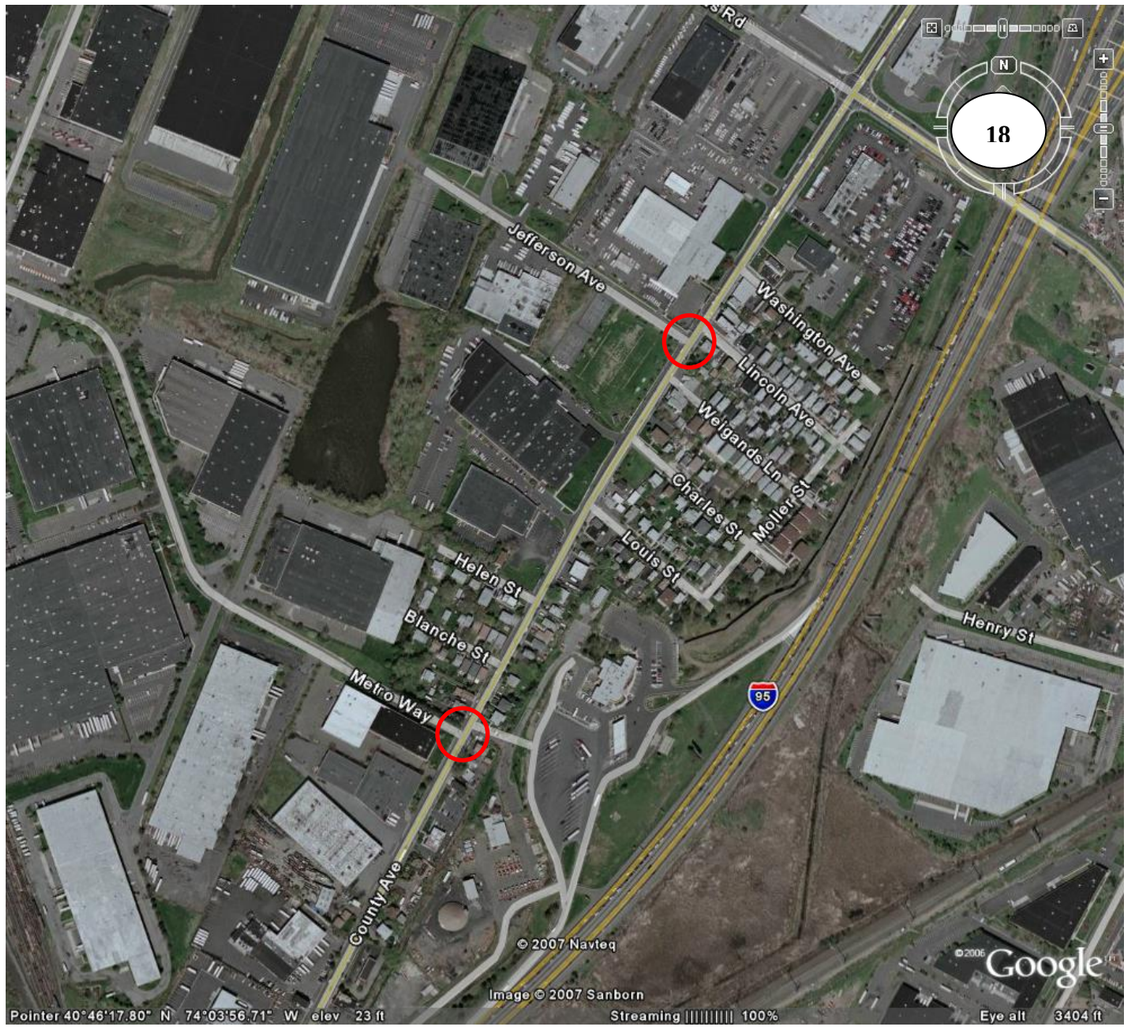
Discussion:

- Under construction: Improvements to the intersection of New County Road and County Road.
  - The proposed Secaucus Connector, which would be parallel to County Road, may result in reduction of traffic volumes on County Road under future condition.

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: Not required
- 2030 Build w/Transit Improvements: Operational improvements to County Road and Postal Service Road intersection. (Note: these operational improvements are addressed under the intersection analysis. Thus, these are not repeated as required roadway segment improvements in Chapter III proposed roadway improvement table to avoid double calculation of improvement costs).

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
98019	County Avenue	PM	Southbound	Metro Way to Jefferson Avenue	0.71	-226	None	1.21	375 *(601)*	Operational Improvements



Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.30 Miles

Northbound Direction:

Discussion:

- There is no opportunity to improve connectivity. The link is located in the grid network of the Secaucus warehouse / outlet area.
- Committed Projects: None

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: Not required
- 2030 Build w/Transit Improvements: Operational improvements to Metro Way and County avenue intersection as well as County Avenue and Jefferson Avenue intersection.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
98021	Secaucus Road	AM	Northbound	US 1 & 9 to Postal Service Road	0.74	-358	None	1.16	585 *(943)*	Operational Improvements

Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.25 Miles

Northbound Directions:

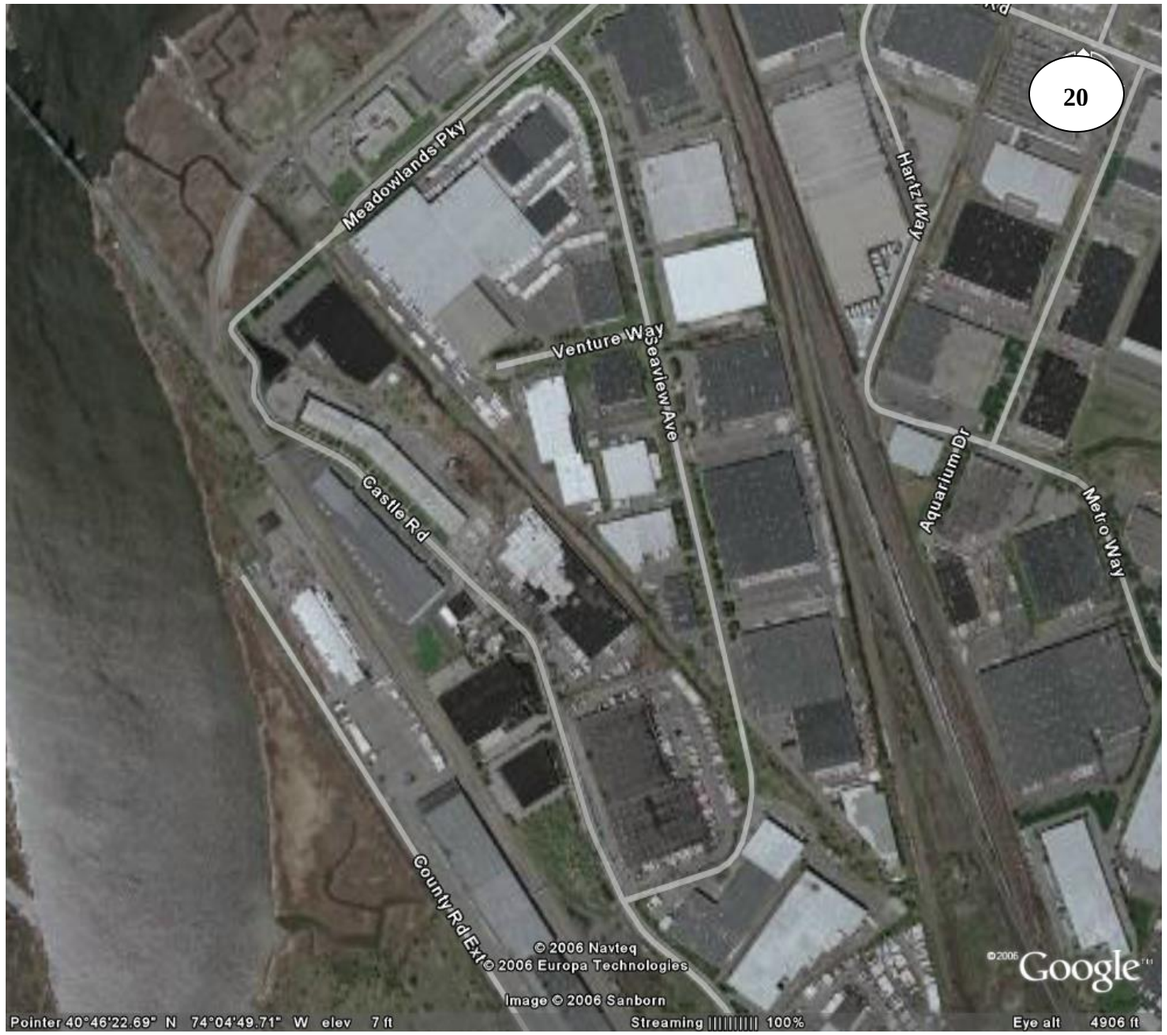
Discussion:

- There is no opportunity to improve connectivity.
- Committed Projects: None

Recommeded solutions:

- 2006 Existing Condition w/Committed Projects: Not required
- 2030 Build w/Transit Improvements: Operational improvements to Secaucus Road and Postal Service Road intersection.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
100055	Seaview Drive	AM	Northbound	West of Seaview Drive to Seaview Drive	1.05	134	None: Minimal Excess Volume	1.31	373 *(509)*	Related to Future Committed Improvement
100055	Seaview Drive	PM	Southbound	Seaview Drive to West of Seaview Drive	1.44	410	Related to Future Committed Improvement	1.63	552 *(816)*	Related to Future Committed improvement



Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.50 Miles

Discussion:

The plan for the Secaucus Transit Village Redevelopment Area includes a Seaview Drive Extension, which would connect with New County Road and the Secaucus Junction rail station. Another extension is proposed to connect from the terminus of the existing Seaview Drive at Castle Road over NJ Transit's Main Line to New County Road Extension.

The planning for these projects should incorporate the above analysis in order to address the projected future congestion issues.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
101576	Seaview Drive Extension	PM	Southbound	New County Road to Secaucus Interchange	0.73	-173	None	1.53	628 *(801)*	Related to Future Committed Improvement
101576	Seaview Drive Extension	AM	Northbound	Secaucus Interchange to New County Road	0.85	-81	None	1.43	885 *(966)*	Related to Future Committed improvement
101577	New County Road	AM	Westbound	Seaview Drive Extension to Castle Road	0.13	-1,605	None	1.26	756 *(2,361)*	Related to Future Committed Improvement
101577	New County Road	PM	Eastbound	Castle Road to Seaview Drive Extension	0.05	-2,082	None	1.30	977 *(3,059)*	Related to Future Committed improvement

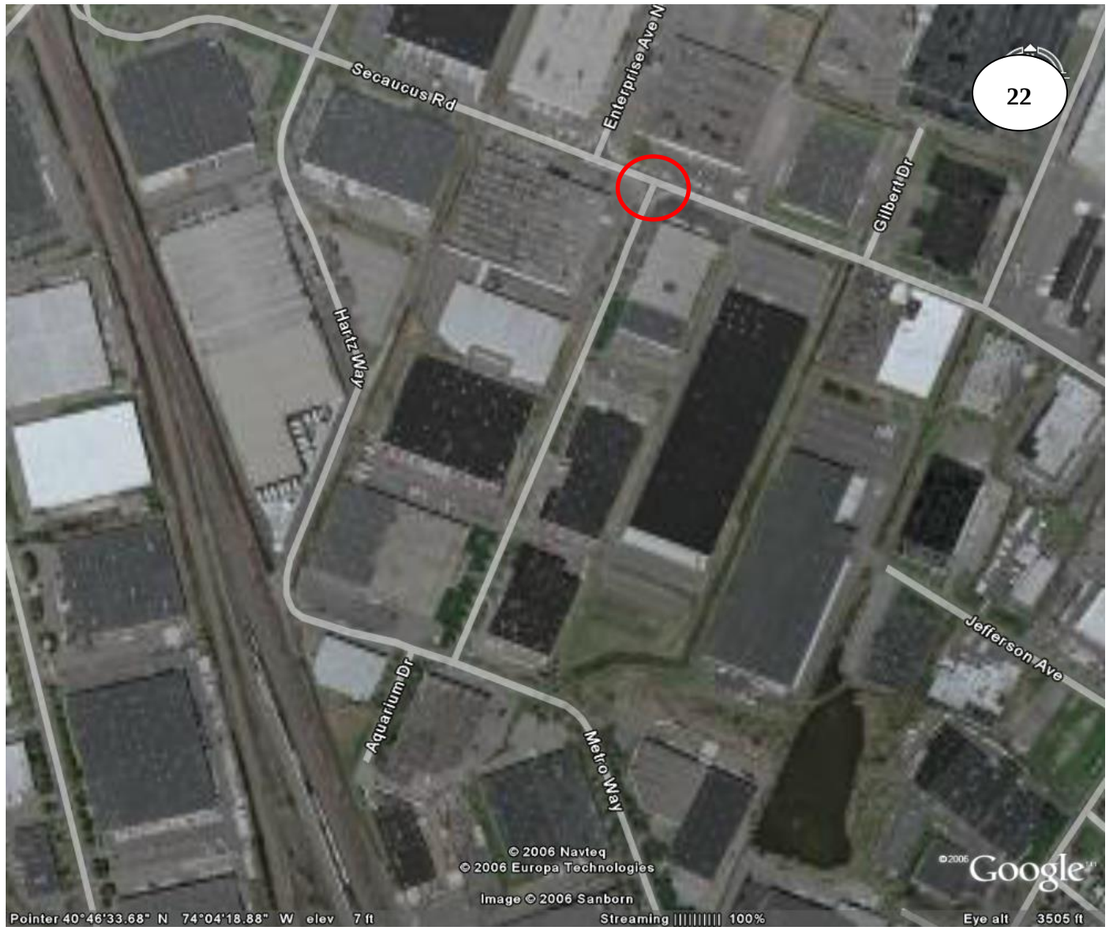
Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.65 Miles

Discussion:

See discussion on Worksheet #20.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
100056	Enterprise Avenue South	AM	Southbound	Secaucus Road to Metro Way	1.50	277	Operational Improvements	1.60	324 *(47)*	Operational Improvements



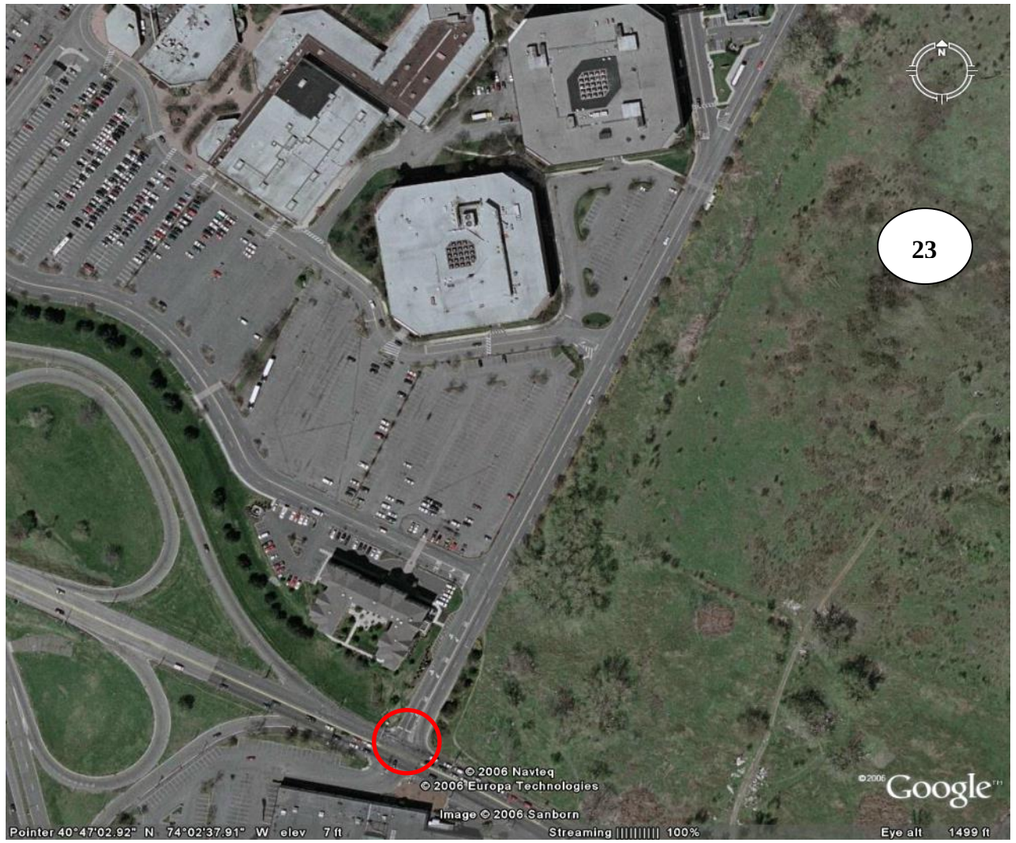
Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.38 Miles

Discussion:
- Industrial/commercial land uses.
- Committed Projects: None.

Proposed solutions:
- 2006 Existing Condition w/Committed Projects: Provide operational improvements at intersections with Secaucus Road and Metro Way. (Note: these operational improvements are addressed under the intersection analysis. Thus, these are not repeated as required roadway segment improvements in the Chapter III proposed roadway improvement table to avoid double calculation of improvement costs).
- 2030 Build w/Transit Improvements: Same as above

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
100197	Plaza Drive	AM	Northbound	Paterson Plank Road to Park Plaza Drive	1.28	290	Operational Improvements	1.30	304 *(14)*	Operational Improvements



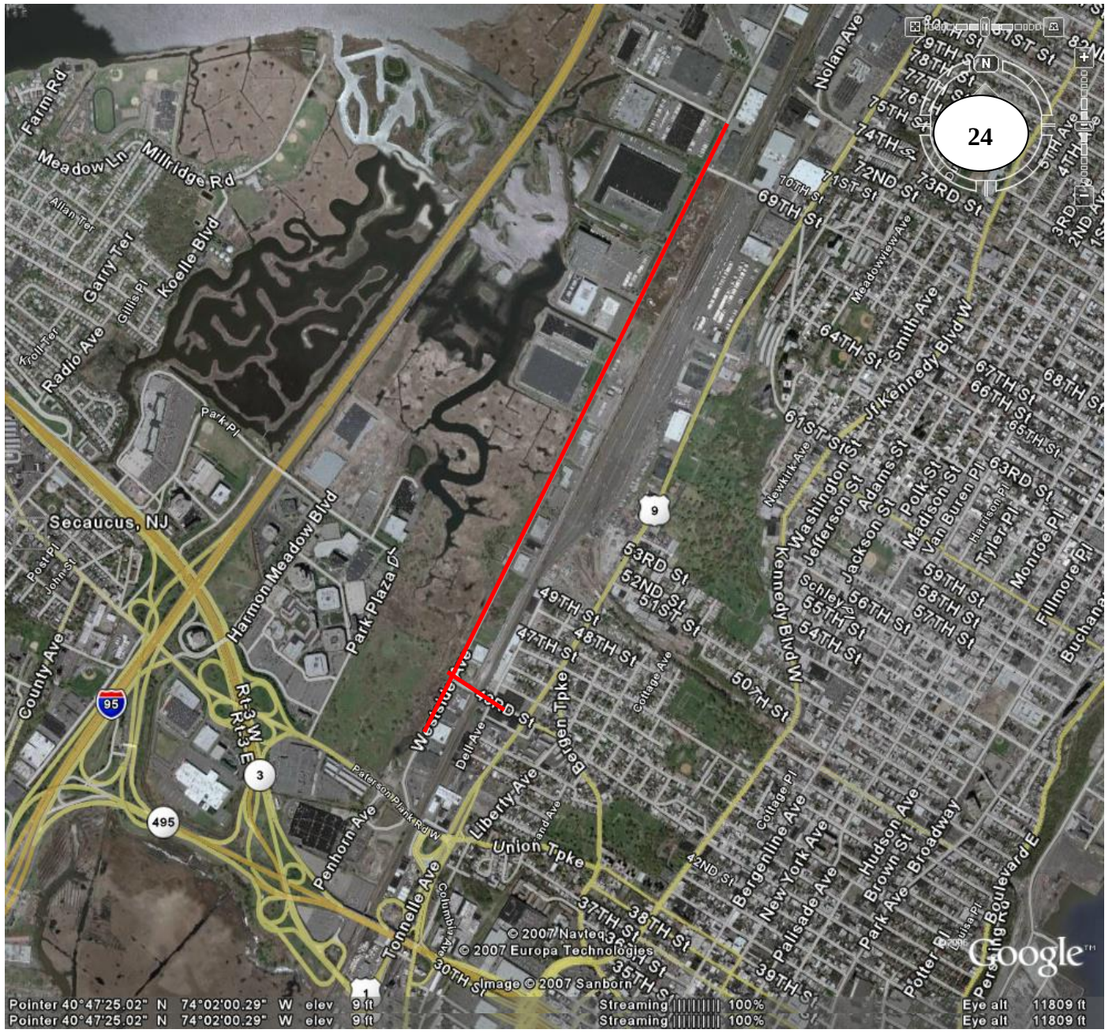
Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 0.25 Miles

Northbound Direction:
Discussion:
- There are two access points from the mall along this segment.
- Committed Projects: None.

Proposed solutions:
- 2006 Existing Condition w/Committed Projects: None – minimal excess volume
  - Operational improvements to the intersection of Paterson Plank Road and Plaza Dr..
  - Left turn storage lanes for accessing the Mall.
- 2030 Build w/Transit Improvements: Same as above

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
100102	Westside Avenue	PM	Northbound	Paterson Plank Road to 43rd Street	0.86	-27	None	2.01	858 *(885)*	Operational improvements
100102	Westside Avenue	PM	Southbound	43rd Street to Paterson Plank Road	1.08	141	None	2.21	1,007 *(866)*	Operational improvements
100183	Westside Avenue	PM	Northbound	43rd Street to South of 69th Street	0.73	-130	None	1.83	720 *(850)*	Operational improvements
100183	Westside Avenue	PM	Southbound	South of 69th Street to 43rd Street	0.69	-160	None	1.76	661 *(821)*	Operational improvements
100099	Westside Avenue	PM	Northbound	South of 69th Street to 69th Street	0.77	-102	None	1.46	429 *(531)*	Operational improvements



Note: (123) shows difference in excess volumes between existing and future build scenarios

Approximate Linear Link Distance: 1.66 Miles

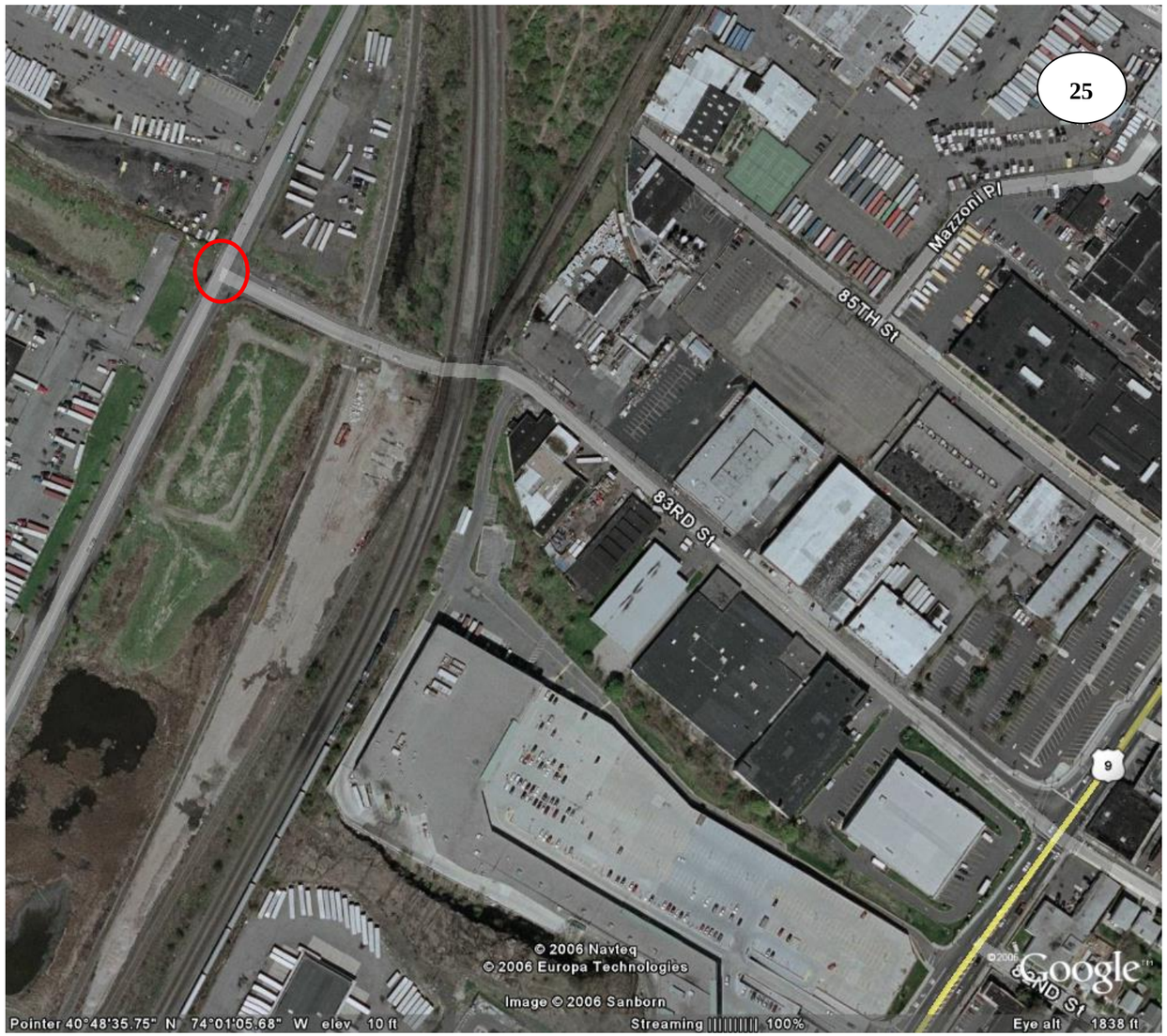
Discussion:
- Industrial and commercial land uses along Westside Avenue.
- Committed Projects: None.

Proposed solutions:
- 2006 Existing Condition w/Committed Projects: None
- 2030 Build w/Transit Improvements:

- Operational improvements to the intersections of Paterson Plank Road and Westside Avenue, Westside Avenue and 43rd Street and Westside Avenue and 69th Street.
- Provide shoulders to improve traffic flow.
- Provide center turning lane for accessing developments without blocking through traffic movements
- Consider improving connectivity by providing a new grade-separated crossing over the railroad on 43rd Street from Westside Avenue.

2030 Model Link ID	Link/Road Name	Peak Period	Link Direction	Link Description	2006 w/Committed Improvements Scenario			2030 Build w/Transit Improvements Scenario		
					Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements	Volume-To-Capacity Ratio	Peak Hour Excess Volume Over Capacity	Potential Enhancements
100096	83rd Street	AM	Westbound	Westside Avenue to US 1 & 9	0.54	-497	None	1.17	362 *(859)*	Operational Improvements
100096	83rd Street	PM	Eastbound	US 1 & 9 to Westside Avenue	1.00	120	None	1.30	460*(340)*	Operational Improvements

Note: (123) shows difference in excess volumes between existing and future build scenarios



Approximate Linear Link Distance: 0.10 Miles (Inside District Boundary)

Both Directions:

Discussion:

- Most of the link is outside the District boundary. For the portion of the link that is inside (0.1 miles) operational improvements at the intersection of 83rd Street and Westside Avenue will improve the traffic flow.
- Committed Projects: None.

Proposed solutions:

- 2006 Existing Condition w/Committed Projects: None
- 2030 Build w/Transit Improvements:

- Operational improvements at the intersection of 83rd Street and Westside Avenue
- Provide left- and right-turn storage lanes at the intersection on 83rd Street
- Optimize signal timings

APPENDIX III-B2

Roadway Interchange Improvement Analysis

Introduction

This analysis assessed the performance of interchange ramp junction locations with available 2006 PM peak hour traffic counts under the 2006 Existing Condition and 2030 Future Condition scenarios. The analysis identified candidate improvements, wherever required, to maintain ramp junction performance at an acceptable level of service under the existing and future scenarios.

Analysis Methodology

The NJMC travel demand model is a regional model and thus does not incorporate details associated with interchange ramp configurations and the specific nature of diverging, merging and weaving traffic flows that are required for analyzing interchange performance. Thus, the model's traffic volume outputs could not be used for the roadway interchange analysis.

To analyze PM peak hour interchange ramp junction and weave area performance under existing conditions, 2-hour PM peak counts were conducted at nine interchanges (69 ramp junction and 8 weave area locations). The highest cumulative total of four consecutive 15-minute interval counts was used as PM peak period volume at each location. These volumes were used to analyze 2006 existing condition interchange ramp junction and weave area performance using Highway Capacity Software (HCS).

Since there are multiple identified future developments within the District, it was not feasible to add specific development related traffic to future background traffic as per the conventional traffic impact study approach. Thus, for analyzing 2030 future build condition ramp junction and weave area performance during the PM peak hour, the analysis applied NJDOT-recommended annual traffic volume growth factors to increase the 2006 existing condition traffic counts to 2030 build condition traffic volume estimates. An annual growth of 2% was considered on the mainline segments at ramp junctions while an annual growth factor of 1.5% was used to grow ramp volumes. These projected constant growth factors could slightly overestimate or underestimate future traffic volumes at interchange locations, but they do reflect best estimates of regional travel growth trends. Based upon these data and the HCS analysis, future condition ramp junction and weave area deficiencies were identified and improvements were suggested to enhance the performance to an acceptable level. Future analysis of the proposed improvements may be able to utilize better location-specific data.

Analysis Locations

The interchange analysis covered the following nine locations:

1. Newark-Jersey City Turnpike and Fish House Road Interchange in Kearny
2. Newark-Jersey City Turnpike and Belleville Turnpike/NJ Route 7 interchange in Kearny
3. Interstate 280 and Newark Turnpike in Kearny
4. NJ Route 120 and Washington Avenue interchange in Carlstadt
5. NJ Route 3 and Meadowlands Parkway interchange in Secaucus
6. Eastbound NJ Route 3 service road and Paterson Plank Road in Secaucus
7. NJ Route 3 and Paterson Plank Road in Secaucus
8. Service Road ramps and Rutherford Avenue/ NJ Route 17 in Lyndhurst
9. NJ Route 3 and NJ Route 17 in Rutherford

A total of 69 ramp junction and 8 weave area locations at the above nine interchange locations were analyzed. Details of these analysis locations are provided in a later section. The next section provides the details of the candidate improvements based upon the analysis.

A. Summary of Candidate Improvements

X-1. Eastbound Route 3 at Meadowlands Parkway (analysis location 7-A)

Summary of Analysis

Existing (2006)		Build (2030)		Build with Improvement	
Density	LOS	Density	LOS	Density	LOS
30.1	D	37.6	E	34.9	D

Proposed Improvement
Extend by 300 feet the deceleration ramp from eastbound Route 3 to the Meadowlands Parkway by cantilevering from the existing structure. This extended lane will provide better flow to the Meadowlands Parkway and help to maintain the mainline flow eastbound on the bridge.

X-2. Northbound Route 17 at Route 3 (analysis location W6)

Summary of Analysis

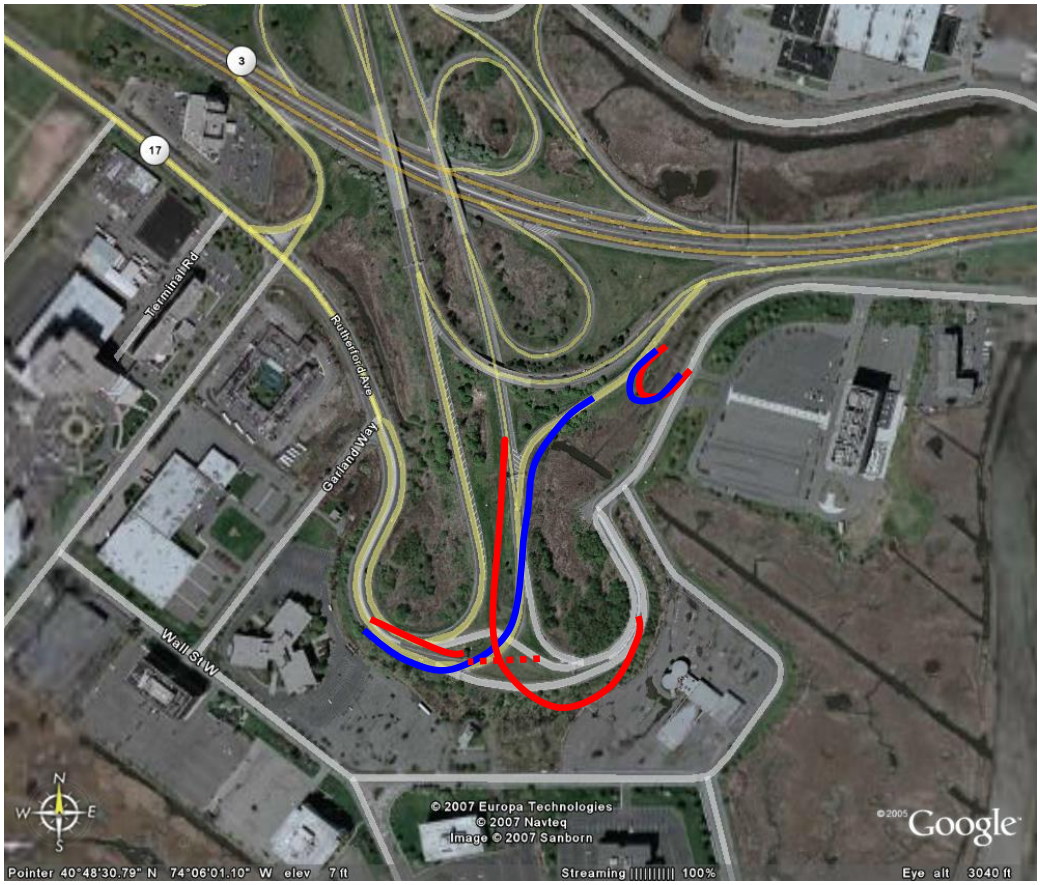
Existing (2006)		Build (2030)		Build with Improvement	
Density	LOS	Density	LOS	Density	LOS
*	F	*	F	**	**

Proposed Improvement

Grade separate to eliminate the weave along northbound NJ 17 between the merge ramp from the westbound Route 3 service road and the diverge ramp to eastbound NJ 3. Two options are possible:

1) raise the ramp from westbound NJ 3 Service Road to northbound NJ17 over the ramp from northbound NJ 17 to eastbound NJ 3 (red below) and depress the eastrbound NJ 3 Service Road to southbound NJ 17 under the northbound NJ 17;
2) raise the ramp from northbound NJ17 to eastbound NJ 3 over the ramp from the westbound NJ 3 Service Road to northbound NJ17 (blue below).

In both cases, a slip ramp from westbound NJ 3 Service Road to eastbound NJ 3 is needed.



* Demand exceeds capacity

** Not known – depends upon preferred improvement

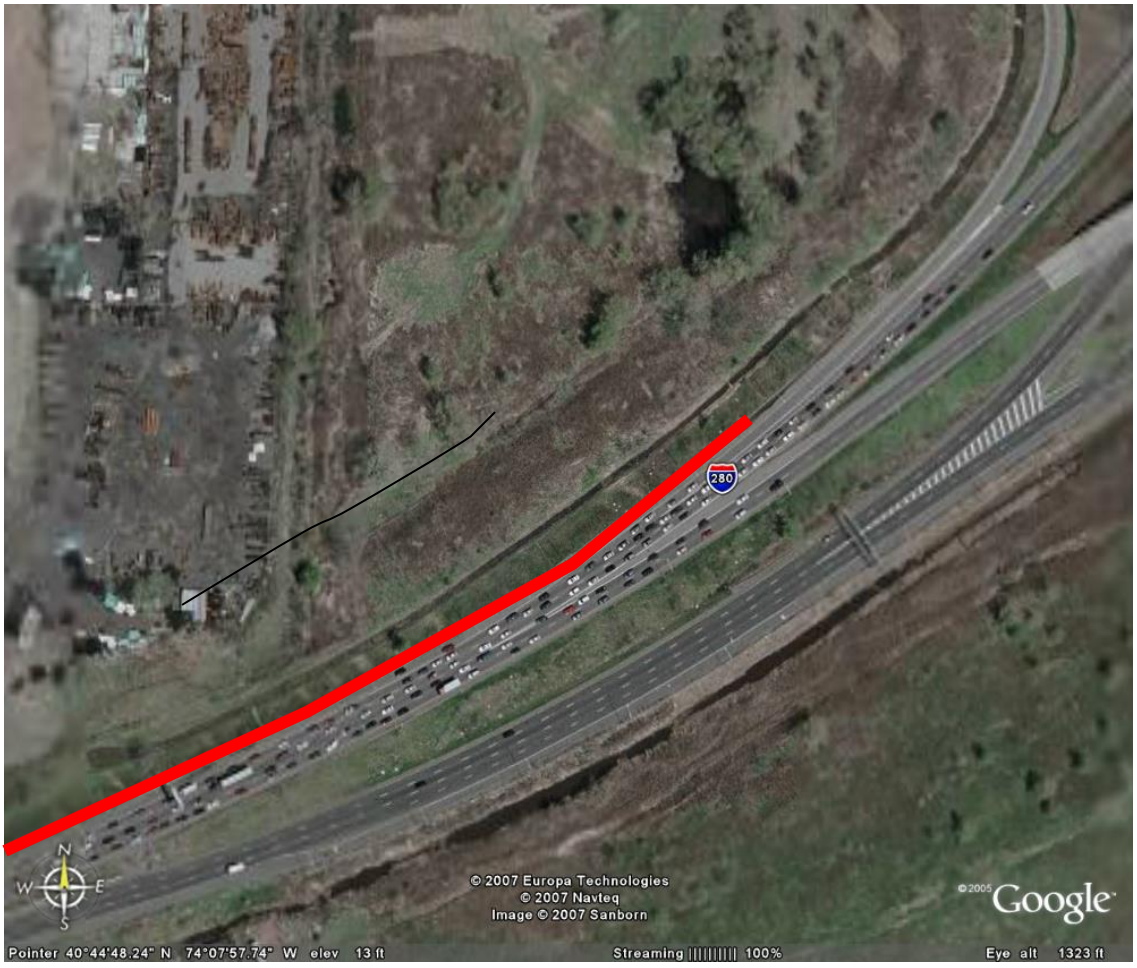
X-3. Westbound I-280 at merge from eastbound Newark-Jersey City Turnpike (analysis location 3-L)

Summary of Analysis

Existing (2006)		Build (2030)		Build with Improvement	
Density	LOS	Density	LOS	Density	LOS
*	A	**	F	*	A

Proposed Improvement

Extend the merge ramp from eastbound Newark-Jersey City Turnpike onto westbound I-280



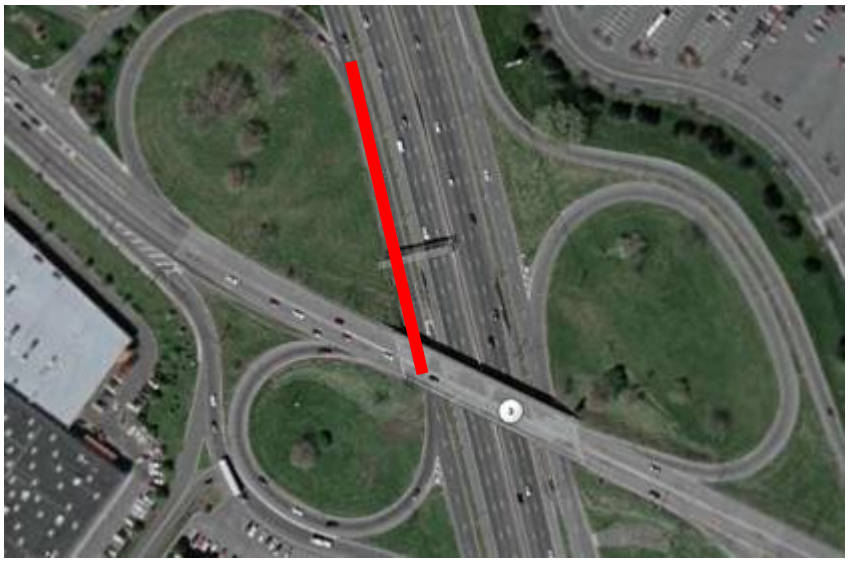
* Minimal density
** Demand exceeds capacity

X-4. Eastbound Route 3 to eastbound Paterson Plank Road (analysis location W5)

Summary of Analysis

Existing (2006)		Build (2030)		Build with Improvement	
Density	LOS	Density	LOS	Density	LOS
23.2	C	41.7	E	24.1	C

Proposed Improvement
Extend by 500 feet the deceleration lane from eastbound Route 3 to eastbound Paterson Plank Road.

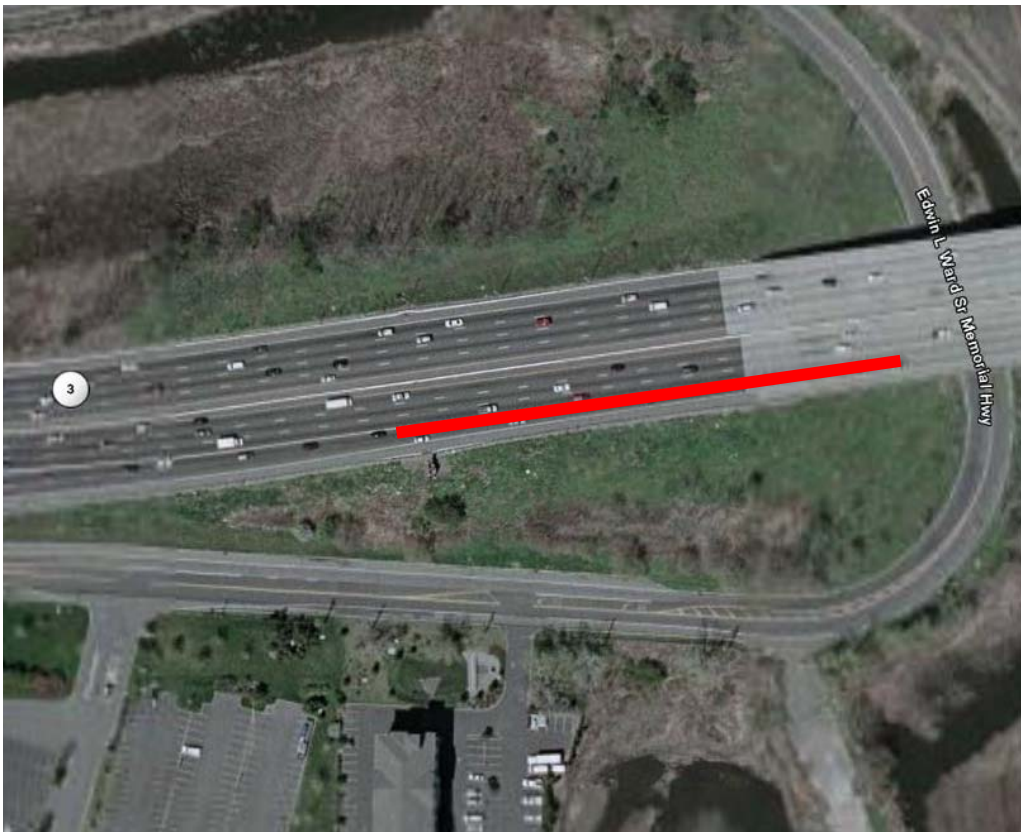


X-5. Eastbound Route 3 at merge from Route 17 (analysis location 11F)

Summary of Analysis

Existing (2006)		Build (2030)		Build with Improvement	
Density	LOS	Density	LOS	Density	LOS
*	A	**	F	*	A

Proposed Improvement
Extend by 500 feet the merge ramp from Route 17 to eastbound Route 3



* Minimal density
** Demand exceeds capacity

X-6. Westbound Route 3 at northbound Route 17

Summary of Analysis

Existing (2006)		Build (2030)		Build with Improvement	
Density	LOS	Density	LOS	Density	LOS
30.9	D	*	F	33.9	D

Proposed Improvement
Extend by 500 feet the deceleration lane from westbound Route 3 to northbound Route 17

* Demand exceeds capacity

X-7. Route 17 southbound to westbound Route 3 (analysis location 11N)

Summary of Analysis

Existing (2006)		Build (2030)		Build with Improvement	
Density	LOS	Density	LOS	Density	LOS
31.9	D	*	F	20.3	C

Proposed Improvement
Extend the acceleration lane from Route 17 southbound to westbound Route 3

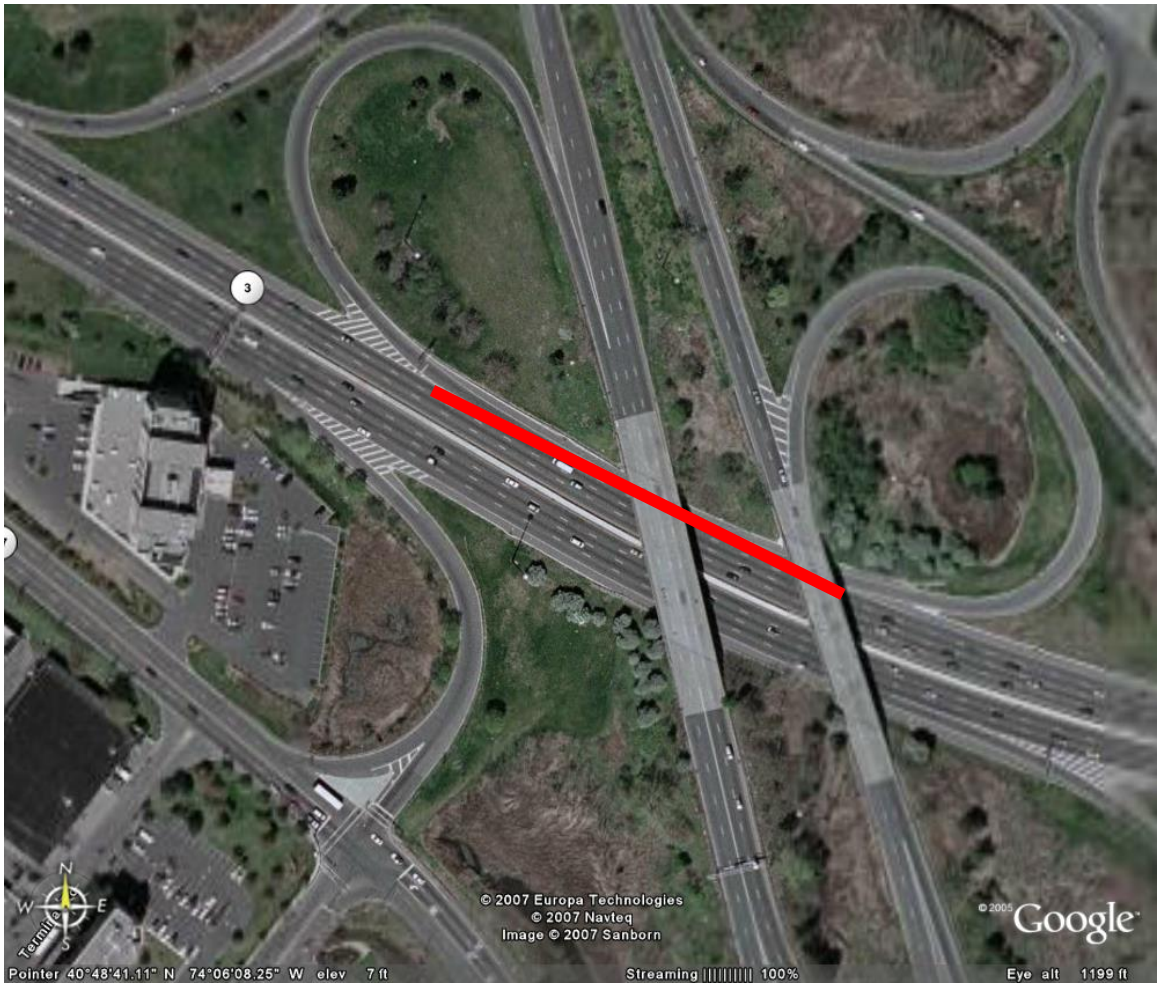
* Demand exceeds capacity

X-8. Westbound Route 3 between the northbound Route 17 on-ramp and the southbound 17 off-ramp (analysis location X-8)

Summary of Analysis

Existing (2006)		Build (2030)		Build with Improvement	
Density	LOS	Density	LOS	Density	LOS
32.3	D	*	F	34.4	D

Proposed Improvement
Add 600-foot weave lane on westbound Route 3 between the northbound Route 17 on-ramp and the southbound 17 off-ramp

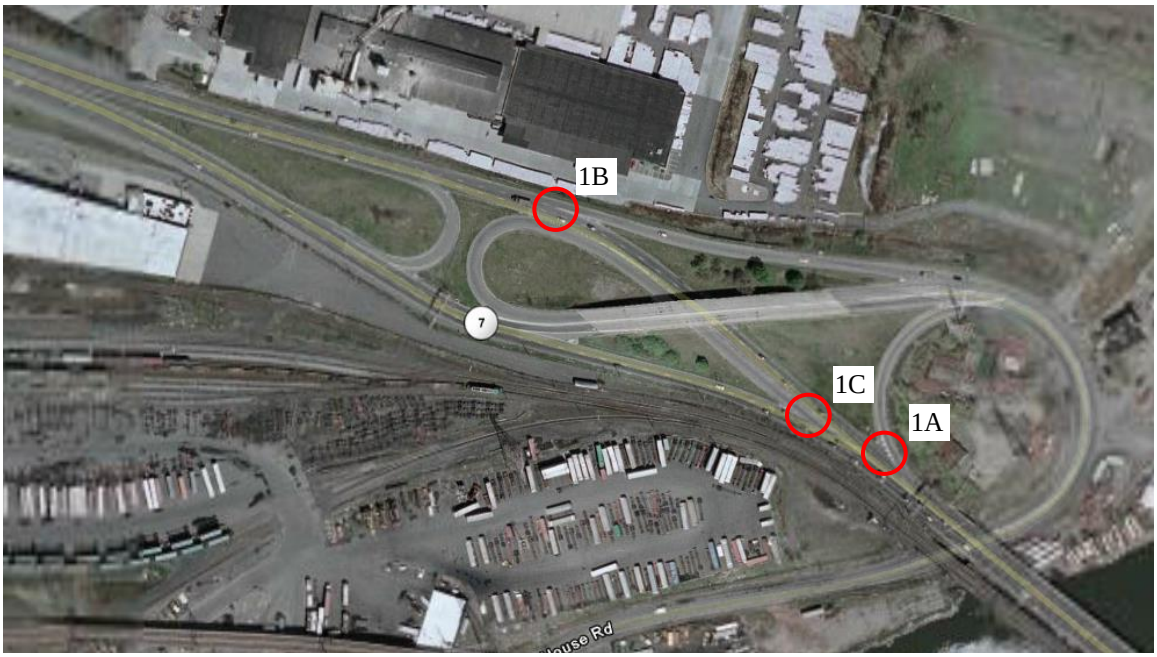


* Demand exceeds capacity

B. Details of Interchange Analysis

1. Newark-Jersey City Turnpike and Fish House Road Interchange in Kearny

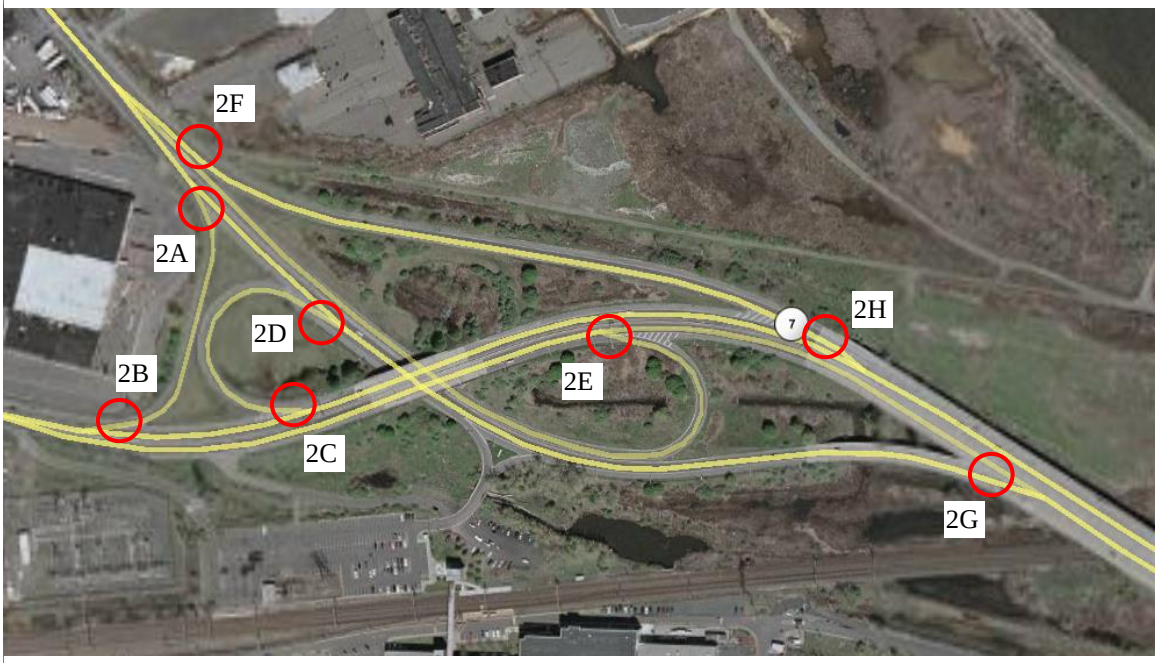
Count Location Index on Map	Ramp Type	Movement
1A	Diverge	Diverge - WB Newark-Jersey City Turnpike to Fish House Road
1B	Merge	Merge - Fish house Road to WB Newark/JC Turnpike
1C	Merge	Merge - Fish house Road to EB Newark/JC Turnpike



There are no weave areas at this interchange.

2. Newark-Jersey City Turnpike and Belleville Turnpike/NJ Route 7 interchange in Kearny

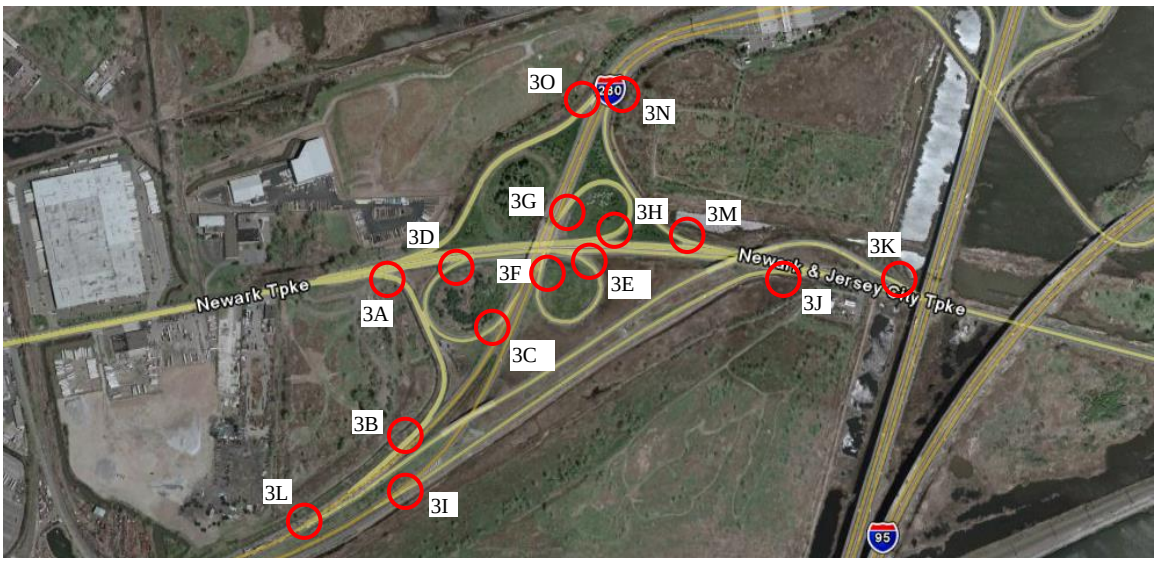
Count Location Index on Map	Ramp Type	Movement
2A	Diverge	Diverge - EB Route 7 to WB Newark Turnpike
2B	Merge	Merge - EB Route 7 to WB Newark Turnpike
2C	Diverge	Diverge -WB Newark Turnpike to EB Route 7
2D	Merge	Merge -WB Newark Turnpike to EB Route 7
2E	Diverge	Diverge - EB Newark Turnpike to WB Route 7
2F	Merge	Merge - EB Newark Turnpike to WB Route 7
2G	Merge	Merge - EB Route 7 to EB Newark Turnpike
2H	Diverge	Diverge - WB Newark Turnpike to WB Route 7



There are no weave areas at this interchange.

3. Interstate 280 and Newark Turnpike in Kearny

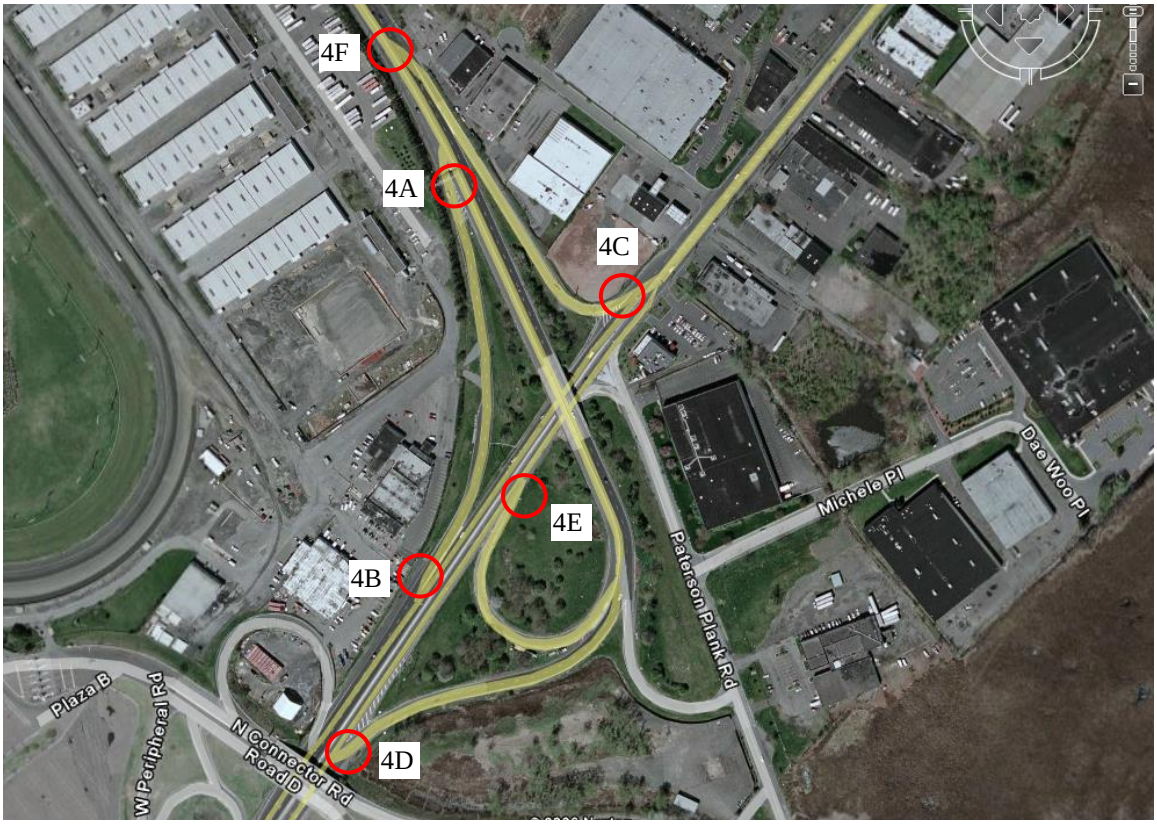
Count Location Index on Map	Ramp Type	Movement
3A	Diverge	Diverge - EB Newark Turnpike to WB I-280
3B	Merge	Merge - EB Newark Turnpike to WB I-280
3C	Diverge	Diverge - WB I-280 to EB Newark Turnpike
3D	Merge	Merge - WB I-280 to EB Newark Turnpike
3E	Diverge	Diverge - EB Newark Turnpike to EB I-280/NJTP
3F	Merge	Merge - EB Newark Turnpike to EB I-280/NJTP
3G	Diverge	Diverge - EB I-280 to WB Newark Turnpike
3H	Merge	Merge - EB I-280 to WB Newark Turnpike
3I	Diverge	Diverge - EB I-280 to EB Newark Turnpike
3J	Merge	Merge - EB I-280 to EB Newark Turnpike
3K	Diverge	Diverge - WB Newark Turnpike to WB I-280
3L	Merge	Merge - WB Newark Turnpike to WB I-280
3M	Diverge	Diverge - WB Newark Turnpike to EB I-280/NJTP
3N	Merge	Merge - WB Newark Turnpike to EB I-280/NJTP
3O	Diverge	Diverge - WB I-280 to WB Newark Turnpike
3P	Merge	Merge - WB I-280 to WB Newark Turnpike



There is one weave area (W1) between ramp locations 3D and 3E .

4. NJ Route 120 and Washington Avenue interchange in Carlstadt

Count Location Index on Map	Ramp Type	Movement
4A	Diverge	Diverge - EB Paterson Plank Road to SB Route 120
4B	Merge	Merge - EB Paterson Plank Road to SB Route 120
4C	Diverge	Diverge - SB Washington Avenue to WB Paterson Plank Road
4D	Diverge	Diverge - NB route 120 to WB Paterson Plank Road
4E	Merge	Merge - EB Paterson Plank Road to NB Washington Avenue/Rt.120
4F	Merge	Merge - SB Washington Avenue to WB Paterson Plank Road



There are no weave areas at this interchange based on available count locations.

5. NJ Route 3 and Meadowlands Parkway interchange in Secaucus

Count Location Index on Map	Ramp Type	Movement
7A	Diverge	Diverge - EB Route 3 to Meadowlands Parkway
7B	Merge	Merge - Meadowlands Parkway to EB Route 3
7C	Diverge	Diverge - WB Route 3 to Meadowlands Parkway
7D	Merge	Merge - Meadowlands Parkway to WB Route 3

There are no weave areas at this interchange.

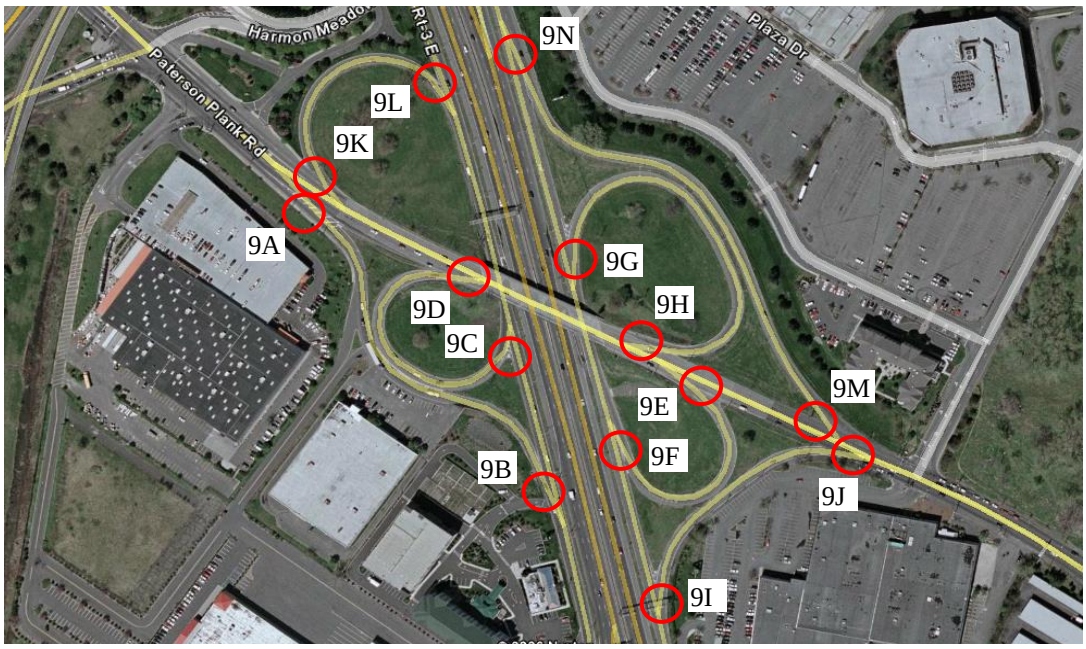
6. Eastbound NJ Route 3 service road and Paterson Plank Road in Secaucus

Count Location Index on Map	Ramp Type	Movement
8A	Diverge	Diverge - EB Route 3 Service Road to Paterson Plank Road

There are no weave areas at this location.

7. NJ Route 3 and Paterson Plank Road in Secaucus

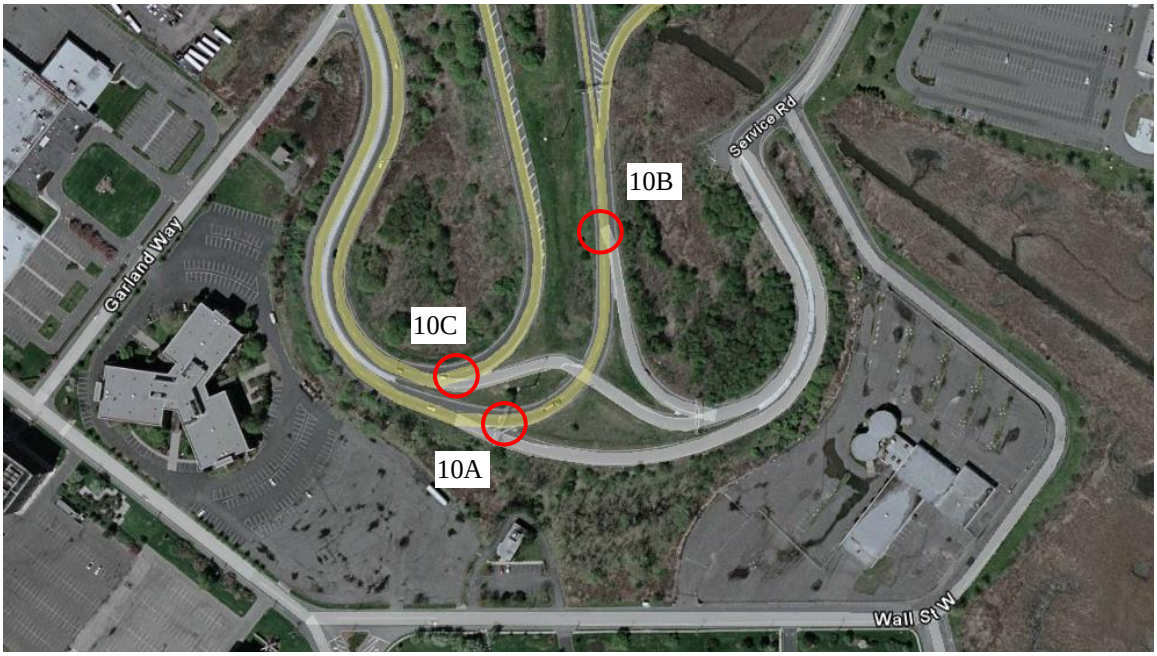
Count Location Index on Map	Ramp Type	Movement
9A	Diverge	Diverge - EB Paterson Plank to EB Route 3
9B	Merge	Merge - EB Paterson Plank to EB Route 3
9C	Diverge	Diverge - EB Route 3 to EB Paterson Plank
9D	Merge	Merge - EB Route 3 to EB Paterson Plank
9E	Diverge	Diverge - EB Paterson Plank to WB Route 3
9F	Merge	Merge - EB Paterson Plank to WB Route 3
9G	Diverge	Diverge - WB Route 3 to WB Paterson Plank
9H	Merge	Merge - WB Route 3 to WB Paterson Plank
9I	Diverge	Diverge - WB Route 3 to EB Paterson Plank
9J	Merge	Merge - WB Route 3 to EB Paterson Plank
9K	Diverge	Diverge - WB Paterson Plank to EB Route 3
9L	Merge	Merge - WB Paterson Plank to EB Route 3
9M	Diverge	Diverge - WB Paterson Plank to WB Route 3
9N	Merge	Merge - WB Paterson Plank to WB Route 3



There are 4 weave areas at this interchange – 1. between locations 9D and 9E (W2)
2. between locations 9H and 9K (W3)
3. between locations 9F and 9G (W4)
4. between locations 9L and 9C (W5)

8. Service Road ramps and Rutherford Avenue/ NJ Route 17 in Lyndhurst

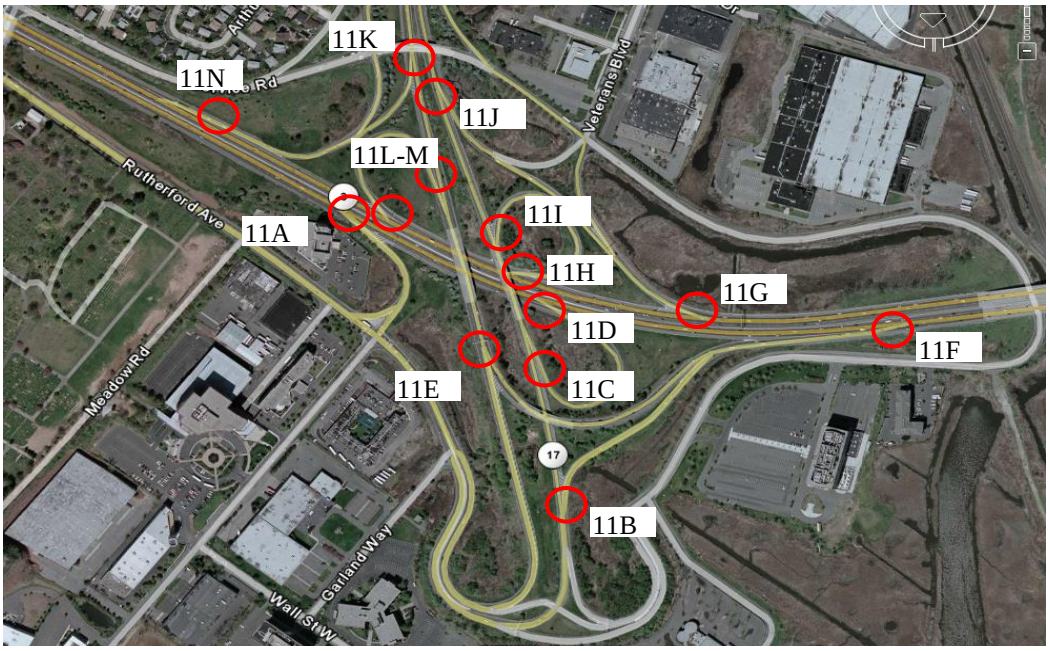
Count Location Index on Map	Ramp Type	Movement
10A	Diverge	Diverge - NB Route 17 to EB Route 3 Service Road
10B	Merge	Merge - Route 3 Service Road to NB Route 17
10C	Merge	Merge - Route 3 Service Road to SB Route 17



There is one weave area (W6) at this interchange between locations 10B and 11B (displayed on the next map)

9. NJ Route 3 and NJ Route 17 in Rutherford

Count Location Index on Map	Ramp Type	Movement
11A	Diverge	Diverge - EB Route 3 to Route 17
11B	Diverge	Diverge - NB Route 17 to EB Route 3
11C	Merge	Merge - EB Route 3 to NB Route 17
11D	Diverge	Diverge - EB Route 3 to NB Route 17
11E	Diverge	Diverge - SB Route 17 to EB Route 3
11F	Merge	Merge - Route 17 to EB Route 3
11G	Diverge	Diverge - WB Route 3 to NB Route 17
11H	Merge	Merge - NB Route 17 to WB Route 3
11I	Diverge	Diverge - NB Route 17 to WB Route 3
11J	Merge	Merge - WB Route 3 to NB route 17
11K	Diverge	Diverge - SB Route 17 to WB Route 3
11L	Diverge	Diverge - WB Route 3 to SB Route 17
11M	Merge	Merge - WB Route 3 to SB Route 17
11N	Merge	Merge - SB Route 17 to WB Route 3



There are two weave areas at this interchange – 1. between 11H and 11L (W7)
2. between 11M and 11E (W8)

Highway Capacity Manual (HCM) Performance Evaluation Criteria for Interchanges:

The Level of Service (LOS) in merge and diverge influence areas is determined by density for all cases of stable operation, represented by LOS A through LOS E. LOS F exists when the total flow departing merge area exceeds the capacity of downstream segment. Density calculation is such case is irrelevant. The following table 1 shows HCM 2000 LOS criteria for merge and diverge ramp junctions.

Table 1: LOS Criteria for Merge and Diverge Areas

LOS	Density (pc/mi/ln)
A	<= 10
B	>10-20
C	>20-28
D	>28-35
E	>35
F	Demand Exceeds Capacity

Source: HCM 2000

The LOS of a weaving segment is determined by comparing segment density with established criteria in HCM. Table 2 shows HCM 2000 LOS criteria for weaving segments

Table 2: LOS Criteria for Weaving Segments

LOS	Density (pc/mi/ln)	
	Freeway Weaving Segment	Multilane and Collector Distributor Weaving Segments
A	<= 10	<= 12
B	>10-20	>12-24
C	>20-28	>24-32
D	>28-35	>32-36
E	>35-43	>36-40
F	>43	>40

Source: HCM 2000

Exisitng and Future Condition Interchange Performance Evaluation:

Table 3 shows PM peak hour ramp junction performance under 2006 existing and 2030 future condition. If performance of a ramp junction showed unacceptable levels (LOS E and LOS F), then appropriate improvements were identified and ramp junction analysis was conducted again to confirm if proposed improvenets improve the LOS to an acceptable level.

Similarly, Table 4 shows performance evaluation analysis for weaving segments.

Table 3: PM Peak Hour Ramp Junction Performance Evaluation – 2006 Existing Condition and 2030 Future Condition

Interchange Details			Existing Condition				2030 Build Condition					
#	Count Location Index on Map	Ramp Type	Ramp LOS	Ramp Density (pc/mi/ln)	Improvements Suggested	Ramp LOS after improvements	Ramp LOS	Ramp Density (pc/mi/ln)	Improvements Suggested	Improvement Length (feet)	Ramp LOS after improvements	Ramp Density after Improvement (pc/mi/ln)
1	1A	Diverge	C	25.0	None	N/A	E	37.7	None. Interchange to be reconfigured.	0	N/A	N/A
2	1B	Merge	A	-35.2	None	N/A	F	-22.2	None. Interchange to be reconfigured.	0	N/A	N/A
3	1C	Merge	A	-39.9	None	N/A	A	-29.5	None	0	N/A	N/A
4	2A	Diverge	B	11.7	None	N/A	B	16.2	None	0	N/A	N/A
5	2B	Merge	B	16.4	None	N/A	C	24.0	None	0	N/A	N/A
6	2C	Diverge	B	13.9	None	N/A	C	21.9	None	0	N/A	N/A
7	2D	Merge	B	10.2	None	N/A	B	14.4	None	0	N/A	N/A
8	2E	Diverge	B	13.1	None	N/A	C	21.2	None	0	N/A	N/A
9	2F	Merge	B	13.1	None	N/A	B	16.8	None	0	N/A	N/A
10	2G	Merge	A	-9.7	None	N/A	A	0.5	None	0	N/A	N/A
11	2H	Diverge	A	-26.8	None	N/A	A	-18.8	None	0	N/A	N/A
12	3A	Diverge	A	8.4	None	N/A	B	11.9	None	0	N/A	N/A
13	3B	Merge	C	20.8	None	N/A	D	30.3	None	0	N/A	N/A
14	3C	Diverge	B	16.7	None	N/A	C	27.2	None	0	N/A	N/A
15	3D	Merge	A	8.6	None	N/A	B	12.5	None	0	N/A	N/A
16	3E	Diverge	A	3.0	None	N/A	A	5.2	None	0	N/A	N/A
17	3F	Merge	C	22.8	None	N/A	D	34.0	None	0	N/A	N/A
18	3G	Diverge	C	20.8	None	N/A	D	32.4	None	0	N/A	N/A

Interchange Details			Existing Condition				2030 Build Condition					
#	Count Location Index on Map	Ramp Type	Ramp LOS	Ramp Density (pc/mi/ln)	Improvements Suggested	Ramp LOS after improvements	Ramp LOS	Ramp Density (pc/mi/ln)	Improvements Suggested	Improvement Length (feet)	Ramp LOS after improvements	Ramp Density after Improvement (pc/mi/ln)
19	3H	Merge	B	10.7	None	N/A	B	14.8	None	0	N/A	N/A
20	3I	Diverge	A	-75.0	None	N/A	A	-64.4	None	0	N/A	N/A
21	3J	Merge	B	17.5	None	N/A	C	24.7	None	0	N/A	N/A
22	3K	Diverge	B	10.0	None	N/A	B	13.5	None	0	N/A	N/A
23	3L	Merge	A	-36.2	None	N/A	F	-22.9	**Add a lane on the mainline at this ramp junction area**		A	-32.6
24	3M	Diverge	A	7.9	None	N/A	B	11.1	None	0	N/A	N/A
25	3N	Merge	C	20.2	None	N/A	D	31.0	None	0	N/A	N/A
26	3O	Diverge	C	24.2	None	N/A	E	38.0	Increase deceleration lane length by 450 ft (addressed under link analysis)	450	D	34.0
27	3P	Merge	B	18.2	None	N/A	C	25.2	None	0	N/A	N/A
28	4A	Diverge	B	13.1	None	N/A	B	15.5	None	0	N/A	N/A
29	4B	Merge	A	-31.5	None	N/A	A	-23.3	None	0	N/A	N/A
30	4C	Diverge	C	24.3	None	N/A	D	29.7	None	0	N/A	N/A
31	4D	Diverge	A	-81.9	None	N/A	A	-79.7	None	0	N/A	N/A
32	4E	Merge	B	14.0	None	N/A	B	16.5	None	0	N/A	N/A
33	4F	Merge	B	16.6	None	N/A	C	20.7	None	0	N/A	N/A
34	7A	Diverge	D	30.1	None	N/A	E	37.6	**Provide a deceleration lane at the diverge ramp**	300	D	34.9
35	7B	Merge	C	21.6	None	N/A	C	24.4	None	0	N/A	N/A
36	7C	Diverge	B	19.6	None	N/A	C	25.3	None	0	N/A	N/A

Interchange Details			Existing Condition				2030 Build Condition					
#	Count Location Index on Map	Ramp Type	Ramp LOS	Ramp Density (pc/mi/ln)	Improvements Suggested	Ramp LOS after improvements	Ramp LOS	Ramp Density (pc/mi/ln)	Improvements Suggested	Improvement Length (feet)	Ramp LOS after improvements	Ramp Density after Improvement (pc/mi/ln)
37	7D	Merge	B	18.8	None	N/A	F	26.5	None – physical constraints preclude possible mainline or ramp widening or extension		N/A	N/A
38	8A	Diverge	A	7.5	None	N/A	A	9.4	None	0	N/A	N/A
39	9A	Diverge	A	9.3	None	N/A	B	13.8	None	0	N/A	N/A
40	9B	Merge	B	18.2	None	N/A	C	25.5	None	0	N/A	N/A
41	9C	Diverge	B	15.6	None	N/A	C	22.6	None	0	N/A	N/A
42	9D	Merge	B	15.8	None	N/A	C	21.5	None	0	N/A	N/A
43	9E	Diverge	B	16.5	None	N/A	C	23.9	None	0	N/A	N/A
44	9F	Merge	A	9.9	None	N/A	B	12.3	None	0	N/A	N/A
45	9G	Diverge	A	9.1	None	N/A	B	12.0	None	0	N/A	N/A
46	9H	Merge	B	12.7	None	N/A	B	16.8	None	0	N/A	N/A
47	9I	Diverge	A	7.5	None	N/A	A	9.5	None	0	N/A	N/A
48	9J	Merge	B	17.4	None	N/A	C	24.7	None	0	N/A	N/A
49	9K	Diverge	B	14.3	None	N/A	C	20.4	None	0	N/A	N/A
50	9L	Merge	B	19.1	None	N/A	C	27.0	None	0	N/A	N/A
51	9M	Diverge	B	10.8	None	N/A	B	14.8	None	0	N/A	N/A
52	9N	Merge	A	8.6	None	N/A	B	13.4	None	0	N/A	N/A
53	10A	Diverge	C	20.3	None	N/A	D	30.1	None	0	N/A	N/A

Interchange Details			Existing Condition				2030 Build Condition					
#	Count Location Index on Map	Ramp Type	Ramp LOS	Ramp Density (pc/mi/ln)	Improvements Suggested	Ramp LOS after improvements	Ramp LOS	Ramp Density (pc/mi/ln)	Improvements Suggested	Improvement Length (feet)	Ramp LOS after improvements	Ramp Density after Improvement (pc/mi/ln)
54	10B	Merge	C	25.0	None	N/A	E	36.7	**Increase acceleration lane length by 300 ft (to 550ft from existing 250 ft.)**	300	D	34.8
55	10C	Merge	B	14.7	None	N/A	C	20.2	None	0	N/A	N/A
56	11A	Diverge	C	21.7	None	N/A	C	26.6	None	0	N/A	N/A
57	11B	Diverge	B	17.7	None	N/A	C	21.9	None	0	N/A	N/A
58	11C	Merge	C	22.6	None	N/A	D	28.8	None	0	N/A	N/A
59	11D	Diverge	B	13.4	None	N/A	B	18.6	None	0	N/A	N/A
60	11E	Diverge	A	-3.1	None	N/A	A	-0.4	None	0	N/A	N/A
61	11F	Merge	A	2.5	None	N/A	F	10.9	**Capacity Issues on merge ramp - add a lane on merge ramp**		A	-25.9
62	11G	Diverge	D	30.9	None	N/A	F	39.0	**Provide an deceleration lane at the diverge ramp**	500	D	33.9
63	11H	Merge	C	20.3	None	N/A	C	25.0	None	0	N/A	N/A
64	11I	Diverge	B	16.6	None	N/A	C	21.0	None	0	N/A	N/A
65	11J	Merge	C	22.7	None	N/A	D	29.2	None	0	N/A	N/A
66	11K	Diverge	C	22.1	None	N/A	C	26.7	None	0	N/A	N/A
67	11L	Diverge	C	26.1	None	N/A	D	31.8	None	0	N/A	N/A
68	11M	Merge	C	23.9	None	N/A	D	30.4	None	0	N/A	N/A
69	11N	Merge	D	31.9	None	N/A	F	41.1	**Capacity issues both on ramp and mainline - provide additional lane on merge ramp and additional lane on mainline**		C	20.3

Table 4: PM Peak Hour Weave Section Performance Evaluation – 2006 Existing Condition and 2030 Future Condition

#	Weave Description	Roadway Type	Weave Segment Type	2006 Existing Condition						2030 Future Build Condition					
				Weave LOS	Weave Density (pc/mi/ln)	Improvements Suggested	Improvement Length (feet)	Weave LOS after improvements	Weave Density after Improvement (pc/mi/ln)	Weave LOS	Weave Density (pc/mi/ln)	Improvements Suggested	Improvement Length (feet)	Weave LOS after improvements	Weave Density after Improvement (pc/mi/ln)
W1	Eastbound Newark Turnpike weave between merge ramp from westbound I-280 (3D) and diverge ramp to eastbound I-280 (3E)	Multilane Collector	A	A	9.05	None	N/A	N/A	N/A	B	15.28	None	N/A	N/A	N/A
W2	Eastbound Paterson Plank Road weave between merge ramp from eastbound NJ Route 3 (9D) and diverge ramp to westbound NJ Route 3 (9E)	Multilane Collector	A	B	17.08	None	N/A	N/A	N/A	C	30.3	None	N/A	N/A	N/A
W3	Westbound Paterson Plank Road weave between merge ramp from westbound NJ Route 3 (9H) and diverge ramp to eastbound NJ Route 3 (9K)	Multilane Collector	A	A	9.95	None	N/A	N/A	N/A	B	17.01	None	N/A	N/A	N/A
W4	Westbound NJ Route 3 weave between merge ramp from eastbound Pateron Plank Road (9F) and diverge ramp to westbound Paterson Plank Road (9G)	Freeway	A	A	7.36	None	N/A	N/A	N/A	B	12.52	None	N/A	N/A	N/A
W5	Eastbound NJ Route 3 weave between merge ramp from westbound Pateron Plank Road (9L) and diverge ramp to eastbound Paterson Plank Road (9C)	Freeway	A	C	23.16	None	N/A	N/A	N/A	E	41.73	**Add a travel lane in the weave area between merge and diverge ramps**	575	C	24.1
W6	Northbound NJ Route 17 weave beween merge ramp from westbound NJ Route 3 Service Road (10B) and diverge ramp to eastbound NJ Route 3 (11B)	Multilane Collector	A	F	47.31	Part of Future Proposed Improvement	N/A	N/A	N/A	F	54.48	**Analyze potential grade-separation alternative schemes to eliminate this weave**	N/A	N/A	N/A
W7	Westbound NJ Route 3 weave between merge ramp from northbound NJ Route 17 (11H) and diverge ramp to southbound NJ Route 17 (11L)	Freeway	A	D	32.81	None	N/A	N/A	N/A	F	46.62	**Add a travel lane in the weave area between merge and diverge ramps**	550	D	34.4

#	Weave Description	Roadway Type	Weave Segment Type	2006 Existing Condition						2030 Future Build Condition					
				Weave LOS	Weave Density (pc/mi/ln)	Improvements Suggested	Improvement Length (feet)	Weave LOS after improvements	Weave Density after Improvement (pc/mi/ln)	Weave LOS	Weave Density (pc/mi/ln)	Improvements Suggested	Improvement Length (feet)	Weave LOS after improvements	Weave Density after Improvement (pc/mi/ln)
W8	Southbound NJ Route 17 weave between merge ramp from westbound NJ Route 3 (11M) and diverge ramp to eastbound NJ Route 3 (11E)	Multilane Collector	C	B	18.12	None	N/A	N/A	N/A	C	25.08	None	N/A	N/A	N/A

APPENDIX III-B3

Roadway Intersection Improvement Analysis

Number of Intersections

The study process identified 125 intersections for analysis. As summarized below, these intersections include ones either in the transportation model or for which the NJMC had collected manual turning movement counts.

Total Intersections in District	394
Intersections not in Model	-272
Intersections in Model	122
Two-leg intersections	- 9
Sub-total	113
Intersections not in Model but with count data	+ 12
Total	125

Tools for Analysis

Two main tools are available to analyze intersections; these tools are HCS and Synchro software. This analysis used Synchro to analyze both signalized and unsignalized intersections, and the following describes the rationale for this selection.

For unsignalized intersections, HCS provides an option to input upstream signal data, which provides important inputs in terms of mainline traffic flow gaps. This information is important to accurately analyze the performance of a stop-controlled intersection, especially a two-way stop control type intersection located near a signalized intersection. A stand-alone two-way stop controlled intersection analysis in Synchro does not provide an opportunity to integrate upstream signal data and in turn, essential gap information in the intersection analysis. Thus, using Synchro may yield lesser accuracy for certain unsignalized intersection analysis compared to HCS. On the other hand, signalized intersection analysis using Synchro offers certain advantages over HCS signalized intersection analysis. Synchro can analyze non-conventional intersections having more than four approaches or intersections with offset or inclined approaches. HCS software has limitations when a signalized intersection is not a conventional 3 or 4-leg type intersection or when the intersection geometry is awkward. Moreover, Synchro software provides an opportunity to animate operation of a signalized intersection using SimTraffic. Thus, a need for intersection improvement as well as performance enhancement achieved after providing the required intersection improvements can be visually displayed with the use of SimTraffic animation.

It was agreed that there is potential for confusion arising from using two software packages to conduct intersection analysis. Upon considering the relative merits of HCS and Synchro, it was determined to use Synchro for conducting both signalized and unsignalized intersection analyses. To achieve better accuracy for stand-alone unsignalized intersection analysis in Synchro, the District was divided into sub-areas and a Synchro network was created for each section without balancing traffic volumes. This network approach will incorporate upstream signal impacts on unsignalized intersection traffic in the analysis, enhancing the accuracy of the application of Synchro for unsignalized intersections located near signalized intersections.

Data Inputs for Analysis

As a first step, the NJMC model-based existing condition intersection turning movement volumes were compared with actual existing condition traffic counts at twelve locations. This validation process was necessary because the quality of the turning movement data use for the analysis drives the quality/validity of the needs and treatment measures results. The review found that at all 12 intersections, model-based turning movement volumes and/or traffic flows were significantly different than the actual traffic count data. Based upon these discrepancies, it was determined to use actual intersection traffic count data wherever available for existing condition intersection analysis. The process identified 59 intersections (along with 19 interchanges) where 2-hour PM peak period (4:30 PM-6:30PM) manual turning movement counts are required in order to conduct intersection level analysis. The breakdown of intersection counts included the following:

24 intersections located in the northern part of the NJMC District
25 intersections located in central and southern part of the NJMC District
10 intersections to be counted by DMJM Harris as per the scope of work

Tables A through C show the count locations. The counts were recorded by 15-minute intervals between 4:30-6:30 PM for each movement. For each location, the number of heavy vehicles (buses and trucks) also was recorded separately as possible.

The overall analytical process thus followed these steps:

1. Conduct traffic counting program to determine existing volumes (see next section)
2. Analyze intersections under existing conditions using actual traffic volume data.
3. Apply growth factors identified from the NJMC model to estimate 2030 build condition intersection turning movement volumes. The model-derived intersection approach specific link volume growth factors were used to grow existing condition actual counts to future turning movements at each intersection. Since the NJMC model has better accuracy at link level, this approach was helpful to improve the accuracy of turning movement volumes under future conditions. In addition, the location of each intersection was closely studied with respect to identified future district development to validate and calibrate the projected increase in turning movement volumes.
4. Identify required intersection improvements for the existing and future build scenarios, as needed. Estimate the cost of improvements owing solely to the future build scenario.

Table D is a summary of the analysis, including the proposed improvements that will enable each intersection to operate at an acceptable level of service under future conditions. Table D is located in a companion document.

Table A
Intersection Counting Program: – Intersections Located in the Northern Part of the District

#	Intersection of		Town
1	Industrial Ave	Malcolm Ave	Teterboro
2	NJ 46	Huyler St	Teterboro
3	Redneck Ave	Union Ave	Moonachie
4	Redneck Ave	Joseph St	Moonachie
5	Moonachie Ave	Commercial Ave	Moonachie
6	Commercial Ave	W. Commercial Ave	Moonachie
7	Gotham Pky	W. Commercial Ave	Moonachie
8	W. Commercial Ave	Caesers Pl	Moonachie
9	Moonachie Ave	Caesers Pl	Moonachie
10	W Commercial Ave	Grand St	Moonachie
11	Moonachie Ave	Oak St/Industrial Ave	Moonachie
12	Industrial Ave	Railroad St	Moonachie
13	Moonachie Ave	Washington Ave	Moonachie
14	Empire Blvd	State St	Moonachie
15	Moonachie Rd	Edstan Dr	Moonachie
16	Empire Blvd	Horizon Blvd	S Hackensack
17	Washington Ave	Marshall Ave	Little Ferry
18	Broad St	13th St	Carlstadt
19	Broad St	16th St	Carlstadt
20	Broad St	20th St	Carlstadt
21	Paterson Plank Rd	13th St	East Rutherford
22	Paterson Plank Rd	16th St	East Rutherford
23	Commercial Ave	Commerce Rd	Carlstadt
24	Westside Ave	83rd St	North Bergen

Table B: Intersection Counting Program: – Intersections Located in the Central and Southern Part of the District

#	Intersection of		Town
25	Newark Tpk	Bergen Ave	Kearny
26	Secaucus Rd	6th St/ postal service rd	North Bergen
27	Meadows Ln	Farm Rd	Secaucus
28	Millridge Rd	Luhman Ter/Franklin Ter	Secaucus
29	Schopmann Dr	Maple St	Secaucus
30	Maple St	Radio Ave	Secaucus
31	Radio Ave	Huber St	Secaucus
32	Huber St	Koelle Blvd	Secaucus
33	Mill Creek Dr	Park Pl	Secaucus
34	8th St	Clarendon St	Secaucus
35	Front St	9th St	Secaucus
36	Center St	9th St	Secaucus
37	Mansfield Ave	Walter Ave	Secaucus
38	Mansfield Ave	5th St	Secaucus
39	5th St	Pandolfi Ave	Secaucus
40	Golden Ave	Pandolfi Ave	Secaucus
41	Golden Ave	Raydol Ave	Secaucus
42	Flanagan Way	5th St	Secaucus
43	10th st	Harmon Plz	Secaucus
44	County Ave	Jefferson Ave	Secaucus
45	New County Rd	New County Rd Ext	Secaucus
46	County Road	USPS St/6th St	Jersey City
47	Wall St W	Chubb Ave	Lyndhurst
48	Wall St W	Clay Ave	Lyndhurst
49	Paterson Plank Rd	Front St / Humbolt St	Secaucus

Table C: Intersection Counting Program: Other Intersections

#	Intersection of		Town
50	Paterson Plank Rd	Gotham Pky	Carlstadt
51	Gotham Pky	Veterans Blvd	Carlstadt
52	Gotham Pky	Starke Rd	Carlstadt
53	Washington Ave	Veterans Blvd	Carlstadt
54	Howell St	Chariotte Ave	Jersey City
55	Howell St	Duffield Ave	Jersey City
56	Duffield Ave	St Pauls Ave	Jersey City
57	Chariotte Ave	St Pauls Ave	Jersey City
58	James Ave	St Pauls Ave	Jersey City
59	West Side Ave	St Pauls Ave	Jersey City

Summary of Candidate Improvements

2006 Existing Condition Proposed Intersection Improvements

Intersection Location	Improvement Type
1. Redneck Avenue & Moonachie Avenue	Signal split timing improvement & turning movement storage lane additions
2. Moonachie Avenue & Grand Street	Intersection signalization
3. Washington Avenue & Commerce Road	Signal split timing improvement
4. Murray Hill Parkway & East Union Ave.	Turning movement storage lane additions
5. Paterson Plank Road & Terminal Road	Signal phasing and split timing improvement & turning movement storage lane additions
6. Paterson Plank Road & Harmon Meadow Boulevard	Signal split timing improvement
7. NJ 3 & Plaza Center	Convert stop-control to yield control by providing an acceleration lane
8. Valley Brook Avenue & Orient Way	Turning movement and through movement storage lane additions
9. Meadowland Parkway & Westbound NJ 3 Ramp	Turning movement storage lane additions

2030 Future Build Condition Candidate Intersection Improvements

Location	Improvement
1. NJ 46 & Industrial Avenue	Signal cycle and split timing improvement & turning movement storage lane additions
2. Westside Avenue & 69th Street	Signal split timing improvement
3. Westside Avenue & Paterson Plank Road	Grade separation of westbound Paterson Plank Road to northbound Westside Avenue movement and southbound Westside Avenue to westbound Paterson Plank movement
4. Murray Hill Pkwy & E. Union Avenue	Intersection signalization and storage lane additions
5. Paterson Plank Road & Harmon Meadow Boulevard	Turning movement storage lane additions
6. County Avenue & Secaucus Road	Signal split timing improvement & turning movement storage lane additions
7. County Avenue & Center Avenue	Turning movement storage lane additions
8. County Avenue & Paterson Plank Road	Turning movement storage lane additions
9. Paterson Plank Road & Humboldt Street	Signal phasing and split timing improvement & turning movement storage lane additions
10. Meadowland Parkway & Harmon	Signal split timing improvement & turning

Location	Improvement
Plaza	movement storage lane additions
11. Center Street & 10th Street	Signal split timing improvement
12. Paterson Plank Road & 1st Street	Signal phasing and split timing improvement & turning movement storage lane additions
13. American Way & Meadowland Parkway	Storage lane additions
14. Secaucus Road & Hartz Way	Turning movement storage lane additions
15. Meadowland Parkway & Seaview Drive	Storage lane additions
16. New County Road & Castle Road	Intersection signalization
17. Polito Avenue & Rutherford Avenue	Signal split timing improvement & turning movement storage lane additions
18. Valley Brook Avenue & Clay Avenue	Intersection signalization and storage lane additions
19. Meadowland Parkway & eastbound NJ 3 ramp	Signal split timing improvement & turning movement storage lane additions

This list does not include a few improvements that the analysis suggested but that are anticipated to be undertaken as part of the EnCap development project. These improvements are the following:

Polito Avenue & Wall St. West	Storage lane addition
Valley Brook Avenue & Polito Ave.	Intersection signalization
Valley Brook Avenue & Orient	Turning movement storage lane additions

Table D: Summary of Intersection Analysis

#	Intersection Location		Control Type	Existing Condition								2030 Build								
	Main road	Other road		Int. LOS	Problematic Approaches movements	Improvements Suggested	Unit	Unit Cost	#	Cost of Improvement	Int. LOS after improvements	Has approach/ movement issue been completely resolved?	Int. LOS	Problematic Approaches/movements	Improvements Suggested	Unit	Unit Cost	#	Cost of Improvement	Int. LOS after improvements	Has approach/movement issue been completely resolved?
1	NJ 46	Industrial Ave	signal	C (34.3 sec)	NB Industrial Ave LOS F (98.9 sec)	Change split timings	1 Unit	$3,000.00	1	$3,000	C (28.2 sec)	Yes. NB Industrial Ave LOS D (43.4 sec)	F (174.0 sec)	NB Industrial Avenue LOS F (443.98 sec)	Add third left turn storage lane of 400 ft to NB Industrial Avenue Approach	100 ft	$114,000.00	4	$456,000.00		
					NB Industrial Ave Left LOS F (135.4 sec)							NB Industrial Ave Left LOS D (54.5 sec)			Add a third receiving lane (200 ft) on WB NJ 46	100-ft	$128,000.00	2	$256,000.00		
															Optimize intersection cycle length and splits	1 Unit	$3,000.00	1	$3,000.00		
																			$712,000.00		
2	Redneck Ave	Moonachie Ave	signal	F (99.0 sec)	EB Moonachie Ave LOS E (76.6 sec)	Add an exclusive right turn storage lane of 105 ft on WB Moonachie Ave. The other lane should be Through and Left only	100 ft	$41,182.30	1.05	$43,241.42	B (17.3 sec)	Yes. EB Moonachie Ave LOS B (13.8 sec)	D (46.2 sec)	SB Redneck Ave LOS F (145.4 sec)	Add an exclusive left turn storage lane of 200ft on SB Redneck Ave. The existing lane should become Thru+Right lane	100-ft	$128,000.00	2	$256,000.00	C (22.7 sec)	Yes. SB Redneck Ave LOS B (19.3 sec)
					EB Moonachie Ave Left LOS F (141.2 sec)	Change split timings	1 Unit	$3,000.00	1	$3,000		EB Moonachie Ave Left LOS C (22.0 sec)			No right turn storage lane required for AM peak on WB Moonachie. It is already available.						
					WB Moonachie Ave LOS F (139.3 sec)	Add an exclusive left turn storage lane of 105 ft on SB Redneck Ave	100 ft	$34,511.01	1.05	$36,237		WB Moonachie Ave LOS B (19.2 sec), WB Moonachie Ave Through LOS C (25.1 sec), WB Moonachie Right LOS A (7.0 sec)							**$256,000.00**		

3	Moonachie Ave	Grand St	stop	F (102.2 sec)	Grand St NB Left LOS F (1006.4 sec)	Signalize intersection with CL of 90 sec	1 Unit	$250,000.00	1	$250,000	C (21.4 sec)	Yes. Grand St NB LOS C (33.8 sec)	C (22.5 sec)	None							
					Grand St NB Right LOS (1006.4 sec)							Driveway SB LOS A (0.1 sec)									
					Driveway SB Left LOS F (66.1 sec)																
																			$0.00		
4	Mehrhof Rd	Washington Ave	stop	A (3.5 sec)	None	N/A				N/A	N/A	N/A	D (27.1sec)	None							
																			$0.00		
5	Mehrhof Rd	Abend St/Columbus Ave	stop	A (2.1 sec)	None	N/A				N/A	N/A	N/A	A (2.1 sec)	None							
																			$0.00		
6	Westside Ave	69th St	signal	C (31.1 sec)	NB Westside Ave Through LOS E (78.7 sec)	Change split timings	1 Unit	$3,000.00	1	$3,000	B (10.1 sec)	Yes. NB Westside Ave Through LOS B (14.9 sec)	E (55.1 sec)	WB 69th St approach LOS F (165.8 sec)	Optimize signal split timings	1 unit	$3,000.00	1	$3,000.00	D (35.3 sec)	Yes. WB 69th St approach LOS D (54.7 sec)
																			$3,000.00		
7	Westside Ave	Paterson Plank Rd	signal	D (41.7 sec)	WB Paterson Plank Rd LOS E (76.1 sec),	Add a protected WB left turn signal phase	1 Unit	$20,000.00	1	$20,000	B (19.8 sec)	Yes. WB Paterson Plank Rd LOS B (12 sec)	F (352.7 sec)	EB Paterson Plank Rd LOS F (422.1 sec),	Grade separation of movement from westbound Paterson Plank Road to northbound Westside Avenue	1 sq. ft. of grade separation ramp structure	$280.00	9000	$2,520,000.00	C (23.6 sec)	Yes
					WB Paterson Plank Rd Left - LOS F (613.5 sec)	Optimize CL and split timings	1 Unit	$3,000.00	1	$3,000		WB Paterson Plank Rd Left - LOS D (50.5 sec)		WB Paterson Plank Rd LOS F (276.1 sec),	Grade separation of movement from southbound Westside Avenue to westbound Paterson Plank Road	1 sq. ft. of grade separation ramp structure	$280.00	5400	$1,512,000.00		
														NB Westside Avenue Approach LOS F (271.7sec)							
																			$4,032,000.00		
8	Washington Ave	Commerce Rd	signal	E (75.5 sec)	NB Washington Ave LOS F (142.1 sec)	Change split timings	1 Unit	$3,000.00	1	$3,000	C (20.0 sec)	Yes. NB Washington Ave LOS B (17.1 sec)	C (32.2 sec)	EB Commerce Road LOS E (63.0 sec)	Add a EB Commerce Road right turn storage lane of 75-ft	100-ft	$128,000.00	0.75	$96,000.00	C (31.1 sec)	Yes. EB Commerce Road LOS C (34.4 sec)
					NB Washington Ave Through LOS F (149.8 sec)							NB Washington Ave Through LOS B (17.9 sec)			No AM peak mirror improvement is required due to NB far side jug handle					

																		$96,000.00		
9	Murray Hill Pky	E Union Ave	stop	F (56.0 sec)	NB Murray Hill Pkw LOS F (97.2 sec)	Add an exclusive left turn storage lane of 315 ft on NB Murray Hill Pkw. The other lane should be Through and Right only. Restriping costs?	100 ft	$34,511.01	3.15	$108,710	B (16.9 sec)	Yes. NB Murray Hill Pkw Left LOS D (43.3 sec), NB Murray Hill Pkw Right and Through LOS B (14.5 sec)	F (>999 sec)	NB Murray Hill Pkwy Approach LOS F (122 sec)	Signalize intersection with pretimed 90 seconds signal	1 unit	$250,000.00	1	$250,000.00	B 14.4 sec)	Yes. NB Murray Hill Pkwy LOS C (21.0 sec)
						Add an exclusive right turn storage lane of 315 ft on EB Union Ave for AM peak	100ft	$41,182.30	3.15	$129,724				SB Murray Hill Pkwy left LOS F (>999 sec)	Add a 100-ft left turn storage lane on EB Union Ave	100-ft	$114,000.00	1	$114,000.00		SB Murray Hill Pkwy LOS A (5.1 sec)
																		#REF!		
10	Paterson Plank Rd	Farm Rd	stop	A (1.2 sec)	None	N/A				N/A	N/A	N/A	B (11.2 sec)	None						
																		$0.00		
11	Paterson Plank Rd	Maple St	signal	C (34.3 sec)	WB Maple St LOS F (80.5 sec)	Change split timings	1 Unit	$3,000.00	1	$3,000	C (25.4 sec)	Yes. WB Maple St LOS B (17.8 sec)	D(46.4 sec)	WB Maple St/Ramp LOS F (86.2 sec)	Add another left turn storage lane of 150 ft to WB Maple St/Ramp	100-ft	$114,000.00	1.5	$171,000.00	C (22.2sec)	WB Maple St/ Ramp LOS C (28.2 sec)
					WB Maple St Left LOS F (101.7 sec)										No AM Peak mirror right turn storage required as there is a slip ramp for the right turn movement						
																		$171,000.00		
12	Paterson Plank Rd	Huber St	signal	B (10.6 sec)	None	N/A				N/A	N/A	N/A	B (12.1 sec)	None						
																		$0.00		
13	Park Pl	Harmon Meadow Blvd	signal	B (17.4 sec)	None	N/A				N/A	N/A	N/A	D (45.6 sec)	WB Park Pl LOS F (99.9 sec)	Add a second left turn storage lane (150 ft) along WB Park Pl	100-ft	$114,000.00	1.5	$171,000.00	C (27.8 sec)	Yes. WB Park Pl LOS C (30.3 sec)
															No AM Peak mirror improvement required as there are already 2 right turn lanes on NB Harman Meadow Blvd.						
															Change signal cycle length and optimize splits	1 Unit	$3,000.00	1	$3,000.00		
																		$174,000.00		
14	Harmon Meadow Blvd	Plaza Dr int #1	signal	B (15.5 sec)	None	N/A				N/A	N/A	N/A	B (18.1 sec)	None						

																			$0.00		
15	Paterson Plank Rd W	Terminal Rd	signal	F (122.8 sec)	EB Paterson Approach LOS E (71.5sec)	Add an exclusive right turn storage lane of 300 ft on WB Paterson Plank Rd. The other lanes should be Through and Right only.	100 ft	$41,182.30	3	$123,547	C (32.5 sec)	Yes. EB Paterson Approach LOS C (31.9 sec)	F (770.5 sec)	EB Paterson Plank Rd LOS F (1302.7 sec)	Add a 300-ft though lane and 200 ft receiving lane	100-ft	$128,000.00	5	$640,000.00	F (190.1 sec)	No. However, intersection delay per vehicle is reduced significantly from 770.5 sec to 190.1 sec
															Add 100-ft left turn storage lane	100-ft	$114,000.00	1	$114,000.00		
															Add 100-ft right turn storage lane	100-ft	$128,000.00	1	$128,000.00		
					WB Paterson Approach LOS F (164.9 sec)	Add another exclusive left turn storage lane of 230 ft on SB Terminal Rd. No additional left turn lane possible on this leg for AM Peak	100 ft	$34,511.01	2.3	$79,375		WB Paterson Approach LOS C (28.1 sec)		WB Paterson Plank Rd LOS F (634.2 sec)	Add a 300-ft though lane and 200 ft receiving lane	100-ft	$128,000.00	5	$640,000.00		
															Add 100-ft left turn storage lane	100-ft	$114,000.00	1	$114,000.00		
					SB Terminal Road Approach LOS F (126.1 sec)	Added on exclusive lead NB and SB left turn signal phase.	1 Unit	$20,000.00	1	$20,000		SB Terminal Road Approach LOS D (41.4 sec)		SB Terminal Rd LOS F (94.1 sec)	Change intersection phasing and split timings	1 unit	$20,000.00	1	$20,000.00		
					SB Terminal Road Left LOS F (182.7 sec)	Change CL to 105 sec and change split timings						SB Terminal Road Left LOS D (53.3 sec)									
																			$1,656,000.00		
16	Paterson Plank Rd	Harmon Meadow Blvd	signal	E (63.1 sec)	Paterson Plank EB Left LOS E (71.8 sec)	Change split timings. Note: Signal clustered with #37	1 Unit	$3,000.00	2	$6,000	C (33.0 sec)	Yes. Paterson Plank EB Left LOS D (43.3 sec)	F (98.9 sec)	Paterson Plank EB LOS F (190.2 sec)	Add a second exclusive left turn lane on EB Paterson Plank Rd of 250 ft.	100-ft	$114,000.00	2.5	$285,000.00	D (38.7 sec)	Yes. Paterson Plank EB LOS D (45.0 sec)
					Paterson Plank WB LOS F (138.3 sec)							Paterson Plank WB LOS D (52.1 sec)			Add a second exclusive right turn lane on NB Harmon Meadows Blvd of 250 ft	100-ft	$128,000.00	2.5	$320,000.00		
															No AM peak mirror improvements required due to one-way operations						
																			$605,000.00		
17	Paterson Plank Rd	Home Depot Dwy (Daffys)	signal	A (5.5 sec)	Paterson Plank Rd WB Left LOS E (59.7 sec)	Signal clustered with Intersection #36					A (5.8 sec)	No. Paterson Plank Rd WB Left LOS E (61.1 sec)	A (8.3 sec)	None							

																			$0.00		
18	NJ 3	Plaza Ctr/Homboldt St	stop	F (84.4 sec)	NB Hombolt Right LOS F (84.4 sec)	Provide an acceleration lane of 150 feet and convert stop control to yield control	100-ft	$41,182.30	1.5	$61,773	A (4.0 sec)	None	A (9.3 sec)	None						
																			$0.00		
19	Sinvalco Rd	Secaucus Rd	stop	A (5.3 sec)	None	N/A				N/A	N/A	N/A	C (24.7 sec)	None						
																			$0.00		
20	County Ave	Secaucus Rd	signal	C (33.7 sec)	WB Secaucus Rd Left LOS F (73.0 sec),	Change EB and WB slit phases to EB and WB lead left phase followed by EB phase followed by EB and WB phase.	1 Unit	$20,000.00	1	$20,000	C (23.4 sec)	Yes. WB Secaucus Rd Left LOS D (48.6 sec)	F (81.0 sec)	EB Secaucus Rd LOS F (90.1 sec)	Optimize signal cycle length and splits	1 Unit	$3,000.00	1	$3,000.00	D (42.6 sec)	Yes. EB Secaucus Rd LOS D (39.6 sec)
					EB Secaucus Rd Left LOS E (67.6 sec)	Change split timings	1	$3,000.00	1	$3,000		EB Secaucus Rd Left LOS D (41.8 sec)		WB Secaucus Rd LOS F (117.1 sec)	Add EB second left turn lane (330 ft) and re-stripe through plus left turn lane as through only lane	100-ft	$114,000.00	3.3	$376,200.00		Yes. WB Secaucus Rd LOS D (44.3 sec)
														SB County Avenue LOS E (71.1 sec)	Add SB County Avenue 330 ft right turn lane for AM peak mirror improvement	100-ft	$128,000.00	3.3	$422,400.00		Yes. SB County Avenue LOS DE (44.4 sec)
																			$801,600.00		
21	County Ave	UPS Dr	signal	A (5.6 sec)	None	N/A				N/A	N/A	N/A	A (7.4 sec)	None						
																			$0.00		
22	County Ave	Center Ave	stop	B (11.0 sec)	None	N/A				N/A	N/A	N/A	F (92.2 sec)	EB Center Ave Approach LOS F (92.2 sec)	Provide a separate 75-ft storage lane for EB left turn	100-ft	$114,000.00	0.75	$85,500.00		
																			$85,500.00		
23	County Ave	Paterson Plank Rd	signal	C (21.4 sec)	None	N/A				N/A	N/A	N/A	F (165.4 sec)	NB County Ave LOS F (240.1 sec)	Add a second exclusive right turn storage lane of 300 ft on NB County Ave	100-ft	$128,000.00	3	$384,000.00	D (36.5 sec)	Yes. NB County Ave LOS D (41.9 sec)

															Add a second exclusive left turn storage lane of 300 ft on WB Paterson Plank for AM Peak mirror improvement	100-ft	$114,000.00	3	$342,000.00		
														EB Paterson Plank Road LOS F (117.3 sec)	Add a separate 250 feet right turn storage lane of EB Paterson Plank f	100-ft	$128,000.00	2.5	$320,000.00		Yes. EB Paterson Plank Road LOS C (26.9 sec)
															No AM peak mirror improvement required as NB County Avenue already has a separate left turn storage lane						
																			$1,046,000.00		
24	Paterson Plank Rd	Homboldt St/ Plaza Ct	signal	C (33.8 sec)	NB Hombolt approach LOS F (124.6 sec)	Convert the Pretimed ginal to Actuated coordinated signal	1 Unit	$100,000.00	2	$200,000	B (19.4 sec)	NB Hombolt approach LOS C (23.7 sec)	E (63.9 sec)	WB Paterson Plank Rd LOS E (72.2 sec)	Add a second 100-ft left turn storage lane on NB Homboldt St.	100-ft	$114,000.00	1	$114,000.00	D (38.7 sec)	No. However, WB Paterson Plank Rd delay reduces to 60.2 sec
					NB Hombolt Left LOS F (255.1 sec)	Change split timings. Note: Signal clustered with #47						NB Hombolt Left LOS D (35.0sec)		NB Humbolt St LOS E (59.9 sec)	Add a second 100-ft left turn storage lane on SB Homboldt St.	100-ft	$114,000.00	1	$114,000.00		Yes. NB Humbolt St LOS C (34.1 sec)
															No AM peak mirror improvements required as there are separate turn lanes already on mirror movements						
														SB Humbolt St LOS F (128.2 sec)	Change signal phasing and split timings	1 Unit	$20,000.00	1	$20,000.00		
																			$248,000.00		
25	Front St	Humbolt St	signal	B (15.9 sec)	None. Note: signal is clustered with #46	N/A				N/A	B (15.9 sec)	N/A	B (14.1 sec)	None							
																			$0.00		
26	Paterson Plank Rd	Flanagan Way (Old RT 3)	signal	A (5.5 sec)	None. Note: signal is clustered with #49								A (9.3 sec)	None							
																			$0.00		
27	Flanagan Way (Old RT 3)	Minnie Pl	signal	A (5.9 sec)	None. Note: signal is clustered with #48	N/A				N/A		N/A	A (6.2 sec)	None							

																			$0.00		
28	Meadowlands Pky	Harmon Plz	signal	C (31.0sec)	None	N/A				N/A	N/A	N/A	F (220.9 sec)	WB Harmon Plz LOS F (114.9 sec)	Add another 100-ft left turn lane on WB Harmon Plz.	100-ft	$114,000.00	1	$114,000.00	F (178.3 sec)	No
														NB Meadowlands Pwky LOS F (380.5 sec)	Add a separate 200-ft right turn lane on WB Harmon Plz.	100-ft	$128,000.00	2	$256,000.00		
															Add a separate 200-ft right turn lane on NB Meadowlands Parkway	100-ft	$128,000.00	2	$256,000.00		
															Optimise signal splits	1 Unit	$3,000.00	1	$3,000.00		
																			$629,000.00		
29	Center St	10th St	stop	C (15.9 sec)	None	N/A				N/A	N/A	N/A	E (65.7 sec)	SB 10th St LOS F(139.9 sec)	Optimize signal splits	1 Unit	$3,000.00	1	$3,000.00	B (13.7 sec)	Yes. SB 10th St LOS B (14.5 sec)
																			$3,000.00		
30	Meadowlands Pky	Cove Ct	signal	B (13.7 sec)	SB Meadowlands Pwky Left LOS E (56.9 sec)	Changed split timings	1 Unit	$3,000.00	1	$3,000	B (15.2 sec)	Yes. SB Meadowlands Pwky Left LOS D (53.4 sec)	B (18.1 sec)	None							
																			$0.00		
31	Paterson Plank Rd	Roosevelt Ave	signal	B (19.5 sec)	None	N/A				N/A	N/A	N/A	C (24.9 sec)	None							
																			$0.00		
32	1st Ave	Plaza Ct	stop	B (12.9 sec)	None	N/A				N/A	N/A	N/A	C (16.9 sec)	None							
																			$0.00		
33	Paterson Plank Rd	1st St	signal	B (18.6 sec)	None	N/A				N/A	N/A	N/A	F (>999 sec)	WB Paterson Plank Approach LOS F (>999 sec)	Provide separateleft turn storage lane (200 ft) on WB Paterson Plank Road	100-ft	$114,000.00	2	$228,000.00	B (17.0 sec)	Yes. WB Paterson Plank Approach LOS B (15.4 sec)
															Provide a separate right turn lane (100 ft) on EB Paterson Plank Road	100-ft	$128,000.00	1	$128,000.00		
															No AM peak mirror improvement required on NB 1st St as the approach has a split phase.						
															Change intersection phasing and split times	1 Unit	$20,000.00	1	$20,000.00		
																			$376,000.00		
34	Enterprise Ave N	Emerson Ln	stop	B (11.2 sec)	None	N/A				N/A	N/A	N/A	B (12.6 sec)	none							

																		$0.00		
35	Enterprise Ave N	American Way	signal	B (13.9 sec)	None	N/A				N/A	N/A	N/A	B (14.9 sec)	None						
																		$0.00		
36	Enterprise Ave N	Secaucus Rd	signal	B (11.2 sec)	None	N/A				N/A	N/A	N/A	B (18.3 sec)	None						
																		$0.00		
37	Secaucus Rd	Enterprise Avenue S	signal	B (17.7 sec)	None	N/A				N/A	N/A	N/A	B (11.4 sec)	None						
																		$0.00		
38	American Way	Hartz Way	signal	B (15.7 sec)	None	N/A				N/A	N/A	N/A	C (20.3 sec)	None						
																		$0.00		
39	American Way	Meadowlands Parkway	signal	C (23.4 sec)	None	N/A				N/A	N/A	N/A	F (102.7 sec)	NB Meadowland Pky LOS F (187.8 sec)	Add another NB Thru lane of 500 ft (no receiving lane required)	100-ft	$128,000.00	5	$640,000.00	C (28.6 sec)	NB Meadowland Pky LOS D (41.2 sec)
															Add another SB Thru lane of 500 ft (no receiving lane required) as AM peak mirror improvement	100-ft	$128,000.00	5	$640,000.00		
																			$1,280,000.00		
40	Secaucus Rd	Hartz Way	stop	B (10.9 sec)	None	N/A				N/A	N/A	N/A	E (36.3 sec)	WB Secaucus Rd LOS F (57.4 sec)	Add an exlusive right turn storage lane of 200 ft on WB Secaucus Rd	100-ft	$128,000.00	2	$256,000.00	C (16.5 sec)	Yes. WB Secaucus Rd LOS C (22.5 sec)
																			$256,000.00		
41	Enterprise Ave S	Metro Way	stop	A (7.8 sec)	None	N/A				N/A	N/A	N/A	B (12.9 sec)	None						
																			$0.00		
42	Metro Way	County Ave	stop	A (0.3 sec)	None	N/A				N/A	N/A	N/A	D (31.1 sec)	None						
																			$0.00		
43	Meadowlands Pky	Seaview Dr	signal	B (15.5 sec)	None	N/A				N/A	N/A	N/A	F (224.5 sec)	NB Meadowlands Pky LOS F (203.4 sec)	Add an additional 200-ft through storage lane and 100-ft receiving lane on NB Meadowlands Parkway	100-ft	$128,000.00	3	$384,000.00	C (31.9 sec)	Yes. NB Meadowlands Pky LOS D (51.3 sec)
														SB Meadowlands Pky LOS F (292.0 sec)	Add an additional 200-ft through storage lane and 100-ft receiving lane on SB Meadowlands Parkway	100-ft	$128,000.00	3	$384,000.00		SB Meadowlands Pky LOS E (68.5 sec)
																			$768,000.00		
44	New County Rd	Castle Rd	stop	D (25.9 sec)	None	N/A				N/A	N/A	N/A	F (811.6 sec)	WB Castle Rd LOS F (811.6 sec)	Intersection signalization	1 unit	$250,000.00	1	$250,000.00	B (15.3 sec)	WB Castle Rd LOS C (20.9 sec)

																		$250,000.00		
45	New County Rd	New County Rd Ext	stop	A (5.9 sec)	None	N/A				N/A	N/A	N/A	B (12.8 sec)	None						
																		$0.00		
46	County Road	New County Rd	stop	D (27.1 sec)	None	N/A				N/A	N/A	N/A	F (>999 sec)	NB County Rd LOS F (>999 sec)	This intersection is currently being grade separated.			$0.00		
																		$0.00		
																		$0.00		
																		$0.00		
47	County Road	USPS St/6th St	signal	A (2.5 sec)	None	N/A				N/A	N/A	N/A	B (12.9 sec)	None						
																		$0.00		
48	Polito Ave	Rutherford Ave/NJ17	signal	D (48.0 sec)	WB Rutherford Ave LOS E (68.7 sec)	Make the existing WB Thru+Left lane , only Thru lane. Change signal phasing and optimize timings	1 Unit	$20,000.00	1	$20,000	B (17.9 sec)	Yes. WB Rutherford Ave LOS C (20.3 sec)	F (146.1 sec)	EB Rutherford Ave approach LOS F (149.3 sec)	Convert the exclusive left tun lane into a Thru lane on WB Rutherford Ave. Add a 300ft left turn stoprage lane	100-ft	$114,000.00	3	$342,000.00	C (34.9 sec)	No. However, EB Rutherford Ave approach significantly improves to LOS E (64.3 sec)
					WB Rutherford Ave Through LOS F (91.9 sec)							WB Rutherford Ave Through LOS C (20.3 sec)		WB Rutherford Ave approach LOS F (163.6 sec)	Add a NB Polito Avenue right turn storage lane of 200 ft	100-ft	$128,000.00	2	$256,000.00		WB Rutherford Ave approach LOS C (28.5 sec)
														NB Polito Avenue Approach LOS F (138.9 sec)	Add a 200-ft WB Rutherford Avenue though lane (This is a part of currently proposed improvement) and a 150-ft receiving lane	100-ft	$128,000.00	1.5	$192,000.00		NB Polito Avenue Approach LOS B (17.4 sec)
																		$790,000.00		
49	Wall St W	Polito Ave	signal	B (14.2 sec)	None	N/A				N/A	N/A	N/A	C (27.7 sec)	WB Wall Street Left Turn LOS E (71.5 sec)	Change cycle length and split timings	1	$3,000.00	1	$3,000.00		Yes. WB Wall Street Left Turn LOS D (51.6 sec)
																		$3,000.00		
50	Valley Brook Ave	Orient Way	signal	F (150.6 sec)	WB Valley Brook Approach LOS F (357.0 sec)	Add an exclusive WB left turn 125ft storage lane.	100ft	$34,511.01	1.25	$43,139	B (18.7 sec)	Yes. WB Valley Brook Ave LOS C (30.5 sec), SB Orient Way LOS B (17.9sec)	F (211.3 sec)	EB Valley Brook approach LOS F 928.3 sec)	Provide a separate 100-ft left turn storage lane on EB Valley Brook approach (This is a part of currently proposed improvement)	100-ft	$114,000.00	0	$0.00	C (34.7 sec)	Yes. EB Valley Brook approach LOS D (36.9 sec)

					SB Orient Way Approach LOS F (138.2 sec)	Add another SB through lane of 320ft (also a shared right lane)	100 ft	$41,182.30	3.2	$131,783				WB Valley Brook approch LOS F (233.0 sec)	Provide a separate 100-ft left turn storage lane on SB Orient Way approach	100-ft	$114,000.00	1	$114,000.00		WB Valley Brook approch LOS D (54.2 sec)
						Add another NB through lane of 335ft (also a shared right lane)	100 ft	$41,182.30	3.35	$137,961				SB Orient Way approach LOS F (173.3 sec)	Provide a separate 100-ft right turn storage for AM on SB Orient Way approach	100-ft	$128,000.00	1	$128,000.00		SB Orient Way approach LOS C (31.9 sec)
														NB Orient Way approach LOS E (61.8 sec)	Provide a separate 100-ft right turn storage for AM on WB Valley Brook approach (This is a part of currently proposed improvements)	100-ft	$128,000.00	0	$0.00		
																			$242,000.00		
51	Valley Brook Ave	Polito Ave	stop	B (11.2 sec)	NB Driveway LOS F (51.9 sec)	Add an exclusive left turn lane on NB Driveway. Driveway lane not NJMC responsibility					B (11.0 sec)	Yes. NB Driveway LOS D (30.4 sec)	F (335.0 sec)	EB Valley Brook Approach LOS F (>999 sec)	Signalization of the intersection	1 unit	$250,000.00	1	$250,000.00	D (38.1 sec)	Yes. EB Valley Brook approach LOS D (54.6 sec)
															Provide a separate 100-ft left turn storage lane on EB Valley Brook Ave	100 ft	$114,000.00	1	$114,000.00		
															Provide a second receiving lane pocket (75 ft) on Polito Ave for double left turn from EB Valley Brook Avenue	100-ft	$128,000.00	0.75	$96,000.00		
																			$460,000.00		
52	Valley Brook Ave	Clay Ave	stop	A (5.3 sec)	None	N/A				N/A	N/A	N/A	F (75.7 sec)	SB Clay Ave approach LOS F (75.7 sec)	Signalization of the intersection	1 unit	$250,000.00	1	$250,000.00	B (18.1 sec)	Yes. SB Clay Ave approach LOS A (8.1 sec)
															Provide 100-ft left turn storage lane on EB Valley Brook approach for protected left turn	100 ft	$114,000.00	1	$114,000.00		
															AM peak mirror of the EB storage lane is not required due to split phase of the signal						

																		$364,000.00		
53	Valley Brook Ave	Chubb Ave	stop	A (6.0 sec)	None	N/A				N/A	N/A	N/A	A (5.2 sec)	None						
																		$0.00		
54	Meadowlands Pky	NJ 3 EB Ramp	signal	C (30.8 sec)	SB Meadowlands Pky E (56.2 sec)	Changes split timings	1 Unit	$3,000.00	1	$3,000	C (30.7 sec)	Yes. SB Meadowlands Pky D (52.8 sec)	F (139.3 sec)	WB Rt 3 E Ramp LOS F (82.5 sec)	Add another 250 ft through storage lane of and 100 ft receiving lane on NB Meadowlands Pky	100-ft	$128,000.00	3.5	$448,000.00	D (35.3 sec)	Yes. WB Rt 3 E Ramp LOS D (43.3 sec)
														NB Meadowlands Pwky LOS F (149.1 sec)	Remove SB Meadowlands Parkway through movement from the intersection operation by adding a 500-ft through lane on the other side of the divider	100-ft	$128,000.00	5	$640,000.00		Yes. NB Meadowlands Pwky LOS C (27.9 sec)
														SB Meadowlands Pwky LOS F (184.5 sec)	Add another 150-ft SB left turn lane storage lane. Existing ane re-stripe from through+left to left	100-ft	$114,000.00	1.5	$171,000.00		No. SB Meadowlands Pwky LOS E (65.1 sec)
															Optimize signal phasing and splits	1 Unit		1	$0.00		
																			$1,259,000.00		
55	Meadowlands Pky	NJ 3 WB Ramp		F (144 sec)	NB Meadowlands Pky Right LOS F (178.1 sec)	Add an additional exclusive right turn storage lane of 350 ft to NB Meadowlands Pky. Only 4 vehicles making through or right movements from WB Ramp. This lane already acts like an exclusive right turn lane. Additional lane for AM peak not required.	100 ft	$41,182.30	3.5	$144,138	B (11.1)	Yes. NB Meadowlands Pky Right LOS B (11.5 sec)	C (19.0 sec)	None							
																			$0.00		

54	Meadowlands Pkwy	NJ 3 EB Ramp	Add another 250 ft thru storage lane of and 100 ft receiving lane on NB Meadowlands Pkwy	100-ft	$128,000	4	$448,000	D (35.3 sec)	Yes. WB Rt 3 E Ramp LOS D (43.3 sec)
			Remove SB Meadowlands Parkway thru movement from the intersection operation by adding a 500-ft thru lane on the other side of the divider	100-ft	$128,000	0	$0		Yes. NB Meadowlands Pkwy LOS C (27.9 sec)
			Add another 150-ft SB left turn storage lane. Existing lane re-stripe from thru +left to left	100-ft	$114,000	0	$0		No. SB Meadowlands Pkwy LOS E (65.1 sec)
			Optimize signal phasing and splits	1 Unit		1	$0		
			2 lane ramp (26 ft X 400 ft) (3% grade to 15 ft; 11 ft lanes with 2 ft shoulders)		$2,808,000	1	$2,808,000		
			traffic signal modification		$98,000	1	$98,000		
			roadway embankment (400 ft)		$512,000	1	$512,000		
							$3,866,000		
100	Paterson Plank Road (Redevelopment Area)		Broad Street striping.		$57,000	1	$57,000		
			New traffic signal at PPR and Murray Hill Pkwy		$250,000	1	$250,000		
			New traffic signal at PPR and Broad Street.		$250,000	1	$250,000		
							$557,000		

101	Bergen Avenue (Kearny)	Site Dwy	1 new traffic signal. 1 signal intersection control revision.		$348,000	1	$348,000		
							$348,000		
102	Belleville Turnpike	Barszcewski Street	1 new traffic signal		$250,000	1	$250,000		
							$250,000		
103	Secaucus Road (FDP / NRT)	Site Driveway	1 new traffic signal		$250,000	1	$250,000		
							$250,000		
104	Westside Avenue (MORI properties)	43rd Street	New traffic signal at Westside Avenue and 43rd Street		$250,000	1	$250,000		
			New traffic signal at PPR & Site Dwy		$250,000	1	$250,000		
			Signal and controller revisions		$290,000	1	$290,000		
	Riverfront / Transition / Station Square - (Per Schoor DePalma)						**$790,000**		
105	Secaucus Road	Meadowlands Parkway	Add an auxiliary lane along Meadowlands Parkway northbound north of Secaucus Road to American Way.		$840,000	1	$840,000		
							$840,000		
106	Seaview Drive	Meadowlands Parkway	Modify signal timing		$3,000	1	$3,000		
							$3,000		
107	New County Road	Castle Road	Add a traffic signal		$250,000	1	$250,000		
							$250,000		

APPENDIX III-C

Pedestrian Improvement Analysis

Purpose of Analysis:

1. Review aerials to determine pedestrian gaps, considering connectivity between appropriate land use pairs and pedestrian gaps associated with access to transit services.
2. Identify pedestrian nodes to propose pedestrian improvement projects.
3. Determine required length of missing sidewalks and number of missing crosswalks in the identified pedestrian nodes.

Analysis Methodology

The study process sought to identify pedestrian needs based on goals such as improved pedestrian connectivity and accessibility between compatible land uses. Because of methodological and resource limitations, the analysis did not classify candidate pedestrian improvements as attributable to existing or future development. Instead, the proposed projects are considered as a combined opportunity to improve alternative travel mode options for the district - today and also in the future.

The estimated total costs for the candidate improvements were allocated to existing conditions and future conditions based upon the existing and future transit score indices. The transit score index includes elements that directly relate to pedestrian activity such as population and employment concentrations and household concentration with no or just one available vehicle.

The first step in the assessment was to use aerial photography to identify pedestrian needs related to connectivity and access. The methodology established need based upon a lack of sidewalks or crosswalks between walkable pairs of origins and destinations based on transit service access and connectivity between appropriate land uses. The next step was to organize these needs into geographic concentrations or "nodes." This process resulted in identifying seven nodes or groups of missing crosswalks or sidewalks adjacent to transit stops or land use concentrations.

The final step was to examine these nodes for their specific sidewalk and crosswalk needs. This process involved determining the number of necessary crosswalks and identifying the length of necessary crosswalks for each node.

Further analysis of the candidate pedestrian improvements resulted in the following adjustments:

- Candidate Pedestrian Node #5, County Avenue, was eliminated from consideration for the improvement program because its identified improvement needs are solely attributable to existing conditions.

- The proposed improvements for Pedestrian Node #1, Valley Brook Avenue and vicinity, were revised to eliminate the sidewalks along Valley Brook Avenue because the developer of the EnCap project will be responsible for building these sidewalks.

Details of Proposed Pedestrian Improvements

Pedestrian Node # 1: Valley Brook Avenue and Vicinity

Route	Intersection	Number of Crosswalks Needed	Sidewalk Extents	North/East Sidewalk Length (feet)	South/West Sidewalk Length (feet)
Valley Brook Ave			Polito Ave to Clay Ave	2283	2092
Valley Brook Ave			Clay Ave to Chubb Ave	893	878
Valley Brook Ave			East of Chubb Ave	3933	4029
Wall St West			Polito Ave to Clay Ave	1172	1204
Wall St. West			Clay Ave to Chubb Ave	1136	0
Chubb Avenue			Wall St West to Valley Brook	3207	1840
	Chubb Ave and Valley Brook Ave	3			
	Clay Ave and Valley Brook Ave	3			
	Polito Ave and Valley Brook Ave	3			

Pedestrian Node # 2: Harrison Avenue and Vicinity

Route	Intersection	Number of Crosswalks Needed	Sidewalk Extents	North/East Sidewalk Length (feet)	South/West Sidewalk Length (feet)
Route 508			District Boundary to Bergen Avenue	944	0

Pedestrian Node # 3: Westside Avenue

Route	Intersection	Number of Crosswalks Needed	Sidewalk Extents	North/East Sidewalk Length (feet)	South/West Sidewalk Length (feet)
Westside Ave			83rd St to 80th St	1342	1286
Westside Ave			North of 74th St	413	0
Westside Ave			74th St	0	445
Westside Ave			57th St to 69th St	3261	0
Westside Ave			43rd St to approx. 57th St	3062	3447
Westside Ave			43rd St to Route 3 ramp	0	1286
	Westside Ave and 74th St	3			
	Westside Ave and 71st St	3			
	Westside Ave and 43rd St	3			
	Westside Ave and 69th St	3			
	Westside Ave and 83rd St	3			

Pedestrian Node # 4: Paterson Plank Road

Route	Intersection	Number of Crosswalks Needed	Sidewalk Extents	North/East Sidewalk Length (feet)	South/West Sidewalk Length (feet)
Paterson Plank Road			16th St to 20th St	843	812
Paterson Plank Road			20th St to Gotham Pkwy	2307	2442
Paterson Plank Road			Gotham Pkwy to Route 120	1412	2054
Paterson Plank Road			Study Border to 16th St	746	798
	Paterson Plank Rd West of 16th St	3			
	Paterson Plank Rd and 16th St	3			
	Paterson Plank Rd and 20th St	2			
	Paterson Plank Rd and U-Turn East of 20th St	1			
	Paterson Plank Rd and Entrance Ramp A to Meadowlands	1			
	Paterson Plank Rd Ramp B	2			
	Paterson Plank Rd Ramp C	1			
	Paterson Plank Rd Ramp D	1			
	Paterson Plank Rd Ramp E	2			
	Paterson Plank Rd and Gotham Pkwy	2			
	Paterson Plank Rd Ramp F	1			
	Paterson Plank Rd Ramp G	2			
	Paterson Plank Rd Ramp H	3			

Pedestrian Node # 5: County Avenue

Route	Intersection	Number of Crosswalks Needed	Sidewalk Extents	North/East Sidewalk Length (feet)	South/West Sidewalk Length (feet)
New County Rd			Secaucus Junction Rd to Castle Rd	860	807
	County Ave and Metro Way	3			
	County Ave and Helen St	2			
	County Ave and Blanche St	2			
	County Ave and Louis St	3			
	County Ave and Charles St	2			
	County Ave and Weiglands Line	3			
	County Ave and Jefferson Ave	3			
	County Ave and Lincoln Ave	2			
	County Ave and Washington Ave	3			
	County Rd and County Ave	3			

Pedestrian Node # 6: New County Road Extension Redevelopment Area

Route	Intersection	Number of Crosswalks Needed	Sidewalk Extents	North/East Sidewalk Length (feet)	South/West Sidewalk Length (feet)
New County Rd			County Rd to Secaucus Junction	495	495
New County Rd			Castle Rd to County Rd Ext	879	0
New County Road Extension			New County Road to End	3170	3170
	New County Rd and County Rd ext	3			
	New County Rd and Castle Rd	3			

Pedestrian Node # 7: Moonachie Avenue and Vicinity

Route	Intersection	Number of Crosswalks Needed	Sidewalk Extents	North/East Sidewalk Length (feet)	South/West Sidewalk Length (feet)
Moonachie Ave.			Berger St to Oak St	214	214
Moonachie Ave.			Oak St to Concord St	437	0
Moonachie Ave.			Concord St to Grand St	809	0
	Moonachie Ave. and Grand St	3			
	Moonachie Ave. and Commercial Ave	3			
	Moonachie Ave. and Eastern Way	3			
	W Commercial Ave and Anderson Ave	3			
	W Commercial Ave and Caesar Pl	3			
	W Commercial Ave and Gotham Pkwy	3			

APPENDIX IV

COST ESTIMATING METHODOLOGY

This appendix describes the methodology for estimating the costs of proposed improvements for roads, public transit, pedestrian, and bicycle.

ROADS

The cost estimates for the proposed roadway improvements were generated using cost models for segment, bridge, interchange, and intersection improvements. Project costs reflect current (2006) development of the project. These models were developed based on historical data/costs from previous NJDOT road construction projects that had similar scopes of work. The construction costs were developed based on the cost model, and the preliminary engineering and construction engineering were established as a percentage of the contract costs. The right-of-way costs were estimated individually for each project based on assumed right-of-way needs. The cost model assumptions for road improvements are shown in the following table.

Project Cost Model – Road Improvements

New two-lane Arterial Road	$ 3,360,000	Mile
Traffic Signal	$ 250,000.00	Each
Signal Intersection Control Revision	$ 98,000.00	Each
Signal Timing Revisions	$ 3,000.00	Each
Wetland Mitigation	$ 130,000.00	Acre
Retaining Walls	$ 160.00	SF
Widening Existing Bridge	$ 300.00	SF
Removal of Existing Bridge Structure	$ 50.00	SF
New Bridge Structure	$ 270.00	SF
Preliminary Engineering	15% of contract amount	
Construction Engineering	10% of contract amount	
Special Studies & Value Engineering	varies project to project based on complexity	
Surveys	$ 25,000.00 to $50,000 based on project	
Commercial right-of-way	$ 25.00	SF
Residential right-of-way	$ 10.00	SF

A cost model was also developed for intersection improvements and was applied to all signalized and unsignalized intersections identified for improvements. The cost model for intersection improvements was developed based on historical data/costs from previous NJDOT and northern New Jersey intersection construction projects that had

similar scopes of work as the projects identified. The model was developed inclusive of engineering and a baseline amount of right-of-way. Each intersection was individually analyzed to see if additional costs were required to reflect "special conditions" such as steep slopes, additional right-of-way required, or environmental issues. The cost model assumptions for intersection improvements are shown in the following table.

Cost Model – Intersection Improvements

New Signal	$250,000
Signal & Controller Revisions for interconnection	$192,000
100' of Left Turn Lane –	$114,000
100' of Right Turn Lane -	$128,000
Signal Retiming	$ 3,000

Note: Cost Estimates include Engineering, Right-of-Way, and Construction costs.

The cost estimate calculations for the individual candidate roadway segment and interchange improvements follow at the end of this appendix. The cost estimates for the candidate intersection improvements are included in the summary analysis worksheet in Appendix III-B3.

PEDESTRIAN

The proposed pedestrian improvements for the District involve adding sidewalks and crosswalks. The cost factors (obtained from the Federal Highway Administration website www.walkinginfo.org) for these improvements are as follows:

- $70 per linear foot of five-foot sidewalk, including curbing
- $300 for a painted "ladder" crosswalk

BICYCLE

The proposed bicycle facility enhancements involve establishing Class I (Off Road Path), Class II (On Road Striped Lanes) or Class III (Share the Road) bicycle routes along designated corridors. Class I paved bicycle facilities cost approximately $500,000 per mile, while a Class I gravel path would cost approximately $300,000 per mile. Costs per mile for a Class II on road striped bike/travel lane would be cheaper at $125,000 per mile.

Class III bicycle route facilities require signage every 0.25 miles, at all signalized intersections, and at every turn, along with a curb lane at least 12 feet wide in urban areas (source: AASHTO Guide for the Development of Bicycle Facilities, 1999). Bicycle route signs cost approximately $100 per sign and $20 per post (includes installation), for an approximate cost of $1,000 per mile for signs in both directions (source: planning group at the New York State Department of Transportation in Region 10 [Long Island]).

Bicycle Improvement Cost Estimates

REF #	AREA	ROUTE	CLASS	TYPE	MILES	COST/MILE	TOTAL	AREA TOTAL	Future Share	Future Cost
B-1	Carlstadt	Paralleling the western side of the NJ Turnpike	1.2	Railroad - Gravel Path	1.96	$300,000	**$588,693**	**$718,474**	**9.7%**	**$69,692**
		Empire Boulevard	2	Striped Lanes - On Road	1.01	$125,000	**$126,681**			
		Patterson Plank Road	3	Signed Route	1.50	$1,000	**$1,500**			
		Washington Avenue	3	Signed Route	1.60	$1,000	**$1,600**			
B-2	East Rutherford	Paralleling NJ Transit Pascack Valley Line	1.2	Railroad - Gravel Path	0.45	$300,000	**$136,477**	**$272,604**	**71.7%**	**$195,457**
		Murray Hill Road	2	Striped Lanes - On Road	1.09	$125,000	**$136,127**			
B-3	Jersey City	Paralleling NJ Transit Boonton Line	1.2	Railroad - Gravel Path	0.38	$300,000	**$114,602**	**$201,203**	**0.0%**	**$0**
		West Side Ave - South of Boonton Line	2	Striped Lanes - On Road	0.69	$125,000	**$86,600**			
B-4	Kearny	Parallelling the Harrison-Kingsland Line	1.2	Railroad - Gravel Path	1.82	$300,000	**$544,659**	**$544,659**	**68.4%**	**$372,547**
B-5	Little Ferry	PRW S/W of Clay Pits	1.2	Railroad - Gravel Path	0.27	$300,000	**$79,943**	**$183,455**	**4.9%**	**$8,989**
		Mehrohf Road	2	Striped Lanes - On Road	0.24	$125,000	**$29,403**			
		Gates Road/ Riverside Avenue	2	Striped Lanes - On Road	0.49	$125,000	**$61,269**			
		Empire Boulevard	2	Striped Lanes - On Road	0.10	$125,000	**$12,713**			
		Dietrich Street	3	Signed Route	0.13	$1,000	**$127**			
B-6	Lyndhurst	Paralleling NJ Turnpike (west side)/North Node Access Rd.	1.2	Railroad - Gravel Path	0.40	$300,000	**$119,602**	**$194,342**	**98.8%**	**$192,010**
		Wall St./ Route 3 Service Rd.	2	On-Street Striped Lanes	0.60	$125,000	**$74,740**			
B-7	Moonachie	Empire Blvd	2	On-Street Striped Lanes	0.64	$125,000	**$80,587**	**$98,166**	**0.0%**	**$0**
		Empire Blvd Extenstion	2	On-Street Striped Lanes	0.12	$125,000	**$15,246**			
		Moonachie Ave/Park Ave/Industrial Ave	3	Signed Route	2.33	$1,000	**$2,332**			
B-8	North Arlington	Parallelling the Harrison-Kingsland Line	1.2	Railroad - Gravel Path	1.78	$300,000	**$535,000**	**$535,000**	**23.2%**	**$124,120**
B-9	North Bergen	West Side Avenue to Harmon Meadow	1.1	Paved Pathway	1.76	$500,000	**$877,557**	**$913,684**	**49.3%**	**$450,446**
		71st Street	2	On-Street Striped Lanes	0.29	$125,000	**$36,127**			
B-10	Rutherford	Rutherford Landfill Road	1.1	Paved Pathway	1.29	$500,000	**$647,254**	**$928,504**	**34.2%**	**$928,504**
		West of NJ Turnpike	1.2	Railroad - Gravel Path	0.52	$300,000	**$156,250**			
		Thomas E. Dunn Memorial Highway	2	On-Street Striped Lanes	1.00	$125,000	**$125,000**			
B-11	Secaucus	Koelle Blvd	3	Signed Route	0.61	$1,000	**$606**	**$952,096**	**21.4%**	**$203,748**
		Fraternity Meadows Development	1.1	Paved Pathway	0.38	$500,000	**$187,500**			
		Paralleling Boonton Line	1.2	Railroad - Gravel Path	0.93	$300,000	**$279,091**			
		Hackensack Riverfront East Bank segments between Harmon Plaza and Secaucus High School Campus	1.2	Railroad - Gravel Path	1.02	$300,000	**$305,227**			
		Meadowlands Parkway bet. Secaucus Rd and Castle Rd.	2	Striped Lanes - On Road	0.60	$125,000	**$74,905**			
		Fraternity Meadows Development	2	Striped Lanes - On Road	0.83	$125,000	**$103,622**			
		Hackensack Riverfront East Bank between Castle Rd and Existing Section west of County Rd.	3	Signed Route	0.59	$1,000	**$592**			
		New County Road/Secaucus Transfer	3	Signed Route	0.55	$1,000	**$552**			
B-12	South Hackensack	Path Behind Warehouses East of Horizon Blvd	1.2	Railroad - Gravel Path	0.26	$300,000	**$78,693**	**$87,973**	**0.0%**	**$0**
		Terminal Lane	2	Striped Lanes - On Road	0.07	$125,000	**$9,280**			
B-13	Teterboro	Industrial Avenue	2	Striped Lanes - On Road	1.70	$125,000	**$212,500**	**$212,500**	**13.8%**	**$29,325**
				TOTAL PROPOSED MILES	**30.01**	**TOTAL COSTS**	**$5,842,659**	**TOTAL FUTURE COST**		**$2,574,838**

PUBLIC TRANSIT

The methodology for estimating the costs of the proposed public transit improvements involves three elements: operating costs, fleet acquisition costs, and infrastructure costs. The following sections describe the process for estimating the costs in each of the categories.

Operating Costs

1. Determine shuttle route distance (used Google Earth)
2. Assume average operating speed considering shuttle route posted speed information, dwell time and recovery time assumptions
3. Using above two, determine vehicle hours for making one shuttle round-trip (origin-destination-origin)
4. Using outcome of bullet 3, headway and period of operation information, determine total daily vehicle hours for each shuttle loop
5. Determine vehicle hour unit cost.
6. Using this vehicle hour unit cost and total daily vehicle hours for each loop, determine operating cost per day.
7. Determine number of operating days per year (assuming weekday operations) and total years to be considered to calculate operating cost for the plan.
8. Determine overall operating cost using above

Fleet Costs

1. Assume full-length bus will be used since there are no ridership estimates to determine the required size of vehicle.
2. Based on running time for one round trip and proposed headway, determine the number of buses required for each shuttle service.
3. Consider additional 15% requirement for backup/spare buses to determine overall fleet-size for each shuttle service.
4. Assume cost of $60,000 for a mid-size bus, with 3-year life expectancy
5. Determine total cost based on unit cost and fleet size for each service

COST ESTIMATE CALCULATIONS FOR

CANDIDATE ROADWAY SEGMENT IMPROVEMENTS

L-1. Operational improvements at the intersection of Newark – Jersey City Turnpike & Bergen Avenue

Estimated Cost = $100,000

The estimated costs of the candidate improvements at this intersection include a controller, loop detection, and signal heads / mast arms. The estimated costs are based upon the estimated costs of an interconnected closed loop traffic signal system, as provided by the Federal Highway Administration.

Project Cost Model – Link Improvements

L-2. Extended deceleration lane from westbound I -280 to westbound Newark-Jersey City Turnpike

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of widening	$3,010,000	Mile	0.108	$325,080
Additional Construction Items				
Traffic Signal	$ 250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.196	$25,527
Retaining Walls	$ 160.00	SF	5702	$912,384
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		
New Bridge Structure	$ 270.00	SF		
	Subtotal			**$1,262,991**
Mobilization @ 10%				$126,299
Clearing & Grubbing@5%				$63,150
Traffic Control @ 8%				$101,039
SUBTOTAL				**$290,488**
Contingencies @ 30%				$466,044
Preliminary Engineering	15% of contract amount			$233,022
Construction Engineering	10% of contract amount			$155,348
Special Studies & Value Engineering				$200,000
Surveys	$ 25,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF	8554	$213,840
Residential	$10	SF		
Residential relocations	$250,000	Parcel		
	Subtotal			**$1,318,254**
	Total Project Cost			$2,871,733
	Say			**$2,900,000**

Project Cost Model – Link Improvements

L-3. New southbound travel lane along US 1 & 9 between Tonnelle Circle and Utica Street

Basic Construction		Unit Cost (2007)			Total Cost
1 Lane of widening		$3,010,000	Mile	0.02652	$79,811
Additional Construction Items					
Traffic Signal		$250,000.00	Each		
Signal Intersection Control Revision	$	98,000.00	ea		
Signal Timing Revisions	$	3,000.00	ea		
Wetland Mitigation	$	130,000.00	Acre		
Retaining Walls	$	160.00	SF	5760	$921,600
Widening Existing Bridge	$	300.00	SF	7500	$2,250,000
Removal of Existing Bridge Structure	$	50.00	SF	7500	
New Bridge Structure	$	270.00	SF	7500	
		Subtotal			**$3,251,411**
Mobilization @ 10%					$325,141
Clearing & Grubbing@5%					$162,571
Traffic Control @ 8%					$260,113
SUBTOTAL					**$747,824**
Contingencies		30% of contract amount			$1,199,771
Preliminary Engineering		15% of contract amount			$599,885
Construction Engineering		10% of contract amount			$399,924
Special Studies & Value Engineering					$2,000,000
Surveys			LS	1	$50,000
**Miscellaneous					
Right of way					
Commercial		$25	SF	9504	$237,600
Residential		$10	SF		
Residential relocations		$250,000	Parcel		
		Subtotal			$4,487,179
		Total Project Cost			$8,486,414
		Say			$8,500,000

Project Cost Model – Link Improvements

L-4. New bridge along NJ 3 across Berry's Creek

Basic Construction		Unit Cost (2007)			Total Cost
1 lane of widening		$3,360,000	Mile	0.3	$336,000
Additional Construction Items					
Traffic Signal		$250,000.00	Each		
Signal Intersection Control Revision	$	98,000.00	ea		
Signal Timing Revisions	$	3,000.00	ea		
Wetland Mitigation	$	130,000.00	Acre	7.41818	$964,364
Retaining Walls	$	160.00	SF	84000	$13,440,000
Widening Existing Bridge	$	300.00	SF		
Mechanical and Electrical elements for Lift Bridge	$	5,000,000.00	ea	2	$10,000,000
New Bridge Structure	$	270.00	SF	163728	$44,206,560
		Subtotal			**$68,946,924**
Mobilization		10% of contract amount			$6,894,692
Clearing & Grubbing		5% of contract amount			$3,447,346
Traffic Control		8% of contract amount			$5,515,754
SUBTOTAL					**$15,857,792**
Contingencies		30% of contract amount			$25,441,415
Preliminary Engineering		15% of contract amount			$12,720,707
Construction Engineering		10% of contract amount			$8,480,472
Special Studies & Value Engineering					$2,000,000
Surveys	$	50,000.00	LS	2	$100,000
**Miscellaneous					
Right of way					
Commercial ***		$25	SF	143040	$3,576,000
Residential		$10	SF		
Residential relocations		$250,000	Parcel		
		Subtotal			$52,318,594
		Total Project Cost			$137,123,310
		Say			**$137,200,000**

This estimate does not include any costs that would be associated with relocating any business

Project Cost Model – Link Improvements

L--5. New bridge connecting Paterson Plank Road across the Hackensack River

Basic Construction	Unit Cost (2007)			Total Cost
New 2 lane arterial	$3,360,000	Mile	0.3	$336,000
3 lanes of widening	$4,441,500	Mile		
4 lanes of widening	$4,798,500	Mile		
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	2.90909	$378,182
Retaining Walls	$ 160.00	SF	5760	$921,600
Widening Existing Bridge	$ 300.00	SF		
Mechanicals and Electrical Lift Bridge	$ 5,000,000.00	ea	1	$5,000,000
New Bridge Structure	$ 270.00	SF	168240	$45,424,800
	Subtotal			**$52,060,582**
Mobilization @ 10%				$5,206,058
Clearing & Grubbing@5%				$2,603,029
Traffic Control @ 8%				$4,164,847
SUBTOTAL				**$11,973,934**
Contingencies	30% of contract amount			$19,210,355
Preliminary Engineering	15% of contract amount			$9,605,177
Construction Engineering	10% of contract amount			$6,403,452
Special Studies & Value Engineering				$2,500,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF	20000	$500,000
Residential	$10	SF		$0
Business Relocations	$500,000	Parcel	1	$500,000
	Subtotal			$38,768,984
	Total Project Cost			$102,803,499
	Say			**$103,000,000**

Project Cost Model – Link Improvements

L-6. Intersection Operational Improvements along NJ 120

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of widening (each side)	$3,010,000	Mile		$0
2 lanes of widening (same direction)	$3,638,250	Mile		
3 lanes of widening	$4,441,500	Mile		
4 lanes of widening	$4,798,500	Mile		
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea	4	$392,000
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	1.1937	
Retaining Walls	$ 160.00	SF	5760	
Widening Existing Bridge	$ 300.00	SF	7500	
Removal of Existing Bridge Structure	$ 50.00	SF	7500	
New Bridge Structure	$ 270.00	SF	7500	
	Subtotal			**$392,000**
Preliminary Engineering	15% of contract amount			
Construction Engineering	10% of contract amount			
Special Studies & Value Engineering				
Surveys	$ 25,000.00	LS	1	
**Miscellaneous				
Right of way				
Commercial	$25	SF		
Residential	$10	SF	38998.1	
Residential relocations	$250,000	Parcel		
	Subtotal			
	Total Project Cost			$392,000
	Say			**$400,000**

Project Cost Model – Link Improvements

L-7. New Travel Lane along westbound NJ 3 between US 1 & 9 and I-495

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of widening	$3,010,000	Mile		$0
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.1	$13,000
Retaining Walls	$ 160.00	SF	7200	$1,152,000
Widening Existing Bridge	$ 300.00	SF	24600	$7,380,000
Removal of Existing Bridge Structure	$ 50.00	SF		$0
New Bridge Structure	$ 270.00	SF		$0
	Subtotal			**$8,545,000**
Mobilization @ 10%				$854,500
Clearing & Grubbing@5%				$427,250
Traffic Control @ 8%				$683,600
SUBTOTAL				**$1,965,350**
Contingencies	30% of contract amount			$3,153,105
Preliminary Engineering	15% of contract amount			$1,576,553
Construction Engineering	10% of contract amount			$1,051,035
Special Studies & Value Engineering				$500,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF	24600	$615,000
Residential	$10	SF		$0
Residential relocations	$250,000	Parcel		
	Subtotal			$6,945,693
	Total Project Cost			$17,456,043
	Say			**$17,500,000**

Project Cost Model – Link Improvements

L-8. New Travel Lane along eastbound I-495 between SR 3 and US1&9 SB Ramp

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of widening	$3,010,000	Mile		$0
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.1	$13,000
Retaining Walls	$ 160.00	SF	7200	$1,152,000
Widening Existing Bridge	$ 300.00	SF	20400	$6,120,000
Removal of Existing Bridge Structure	$ 50.00	SF		$0
New Bridge Structure	$ 270.00	SF		$0
	Subtotal			**$7,285,000**
Mobilization @ 10%				$728,500
Clearing & Grubbing@5%				$364,250
Traffic Control @ 8%				$582,800
SUBTOTAL				**$1,675,550**
Contingencies	30% of contract amount			$2,688,165
Preliminary Engineering	15% of contract amount			$1,344,083
Construction Engineering	10% of contract amount			$896,055
Special Studies & Value Engineering				$500,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF	20400	$510,000
Residential	$10	SF		$0
Residential relocations	$250,000	Parcel		
	Subtotal			$5,988,303
	Total Project Cost			$14,948,853
	Say			**$15,000,000**

Project Cost Model – Link Improvements

L-9. Add second southbound lane for through and left turn movements on Center Plaza in Secaucus

Basic Construction	Unit Cost (2007)			Total Cost
Signing and Striping	$6	LF	1795	$10,770
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0	$0
Retaining Walls	$ 160.00	SF		$0
Widening Existing Bridge	$ 300.00	SF		$0
Removal of Existing Bridge Structure	$ 50.00	SF		$0
New Bridge Structure	$ 270.00	SF		$0
	Subtotal			**$10,770**
Preliminary Engineering	15% of contract amount			$1,616
Construction Engineering	10% of contract amount			$1,077
Special Studies & Value Engineering				
Surveys	$ 25,000.00	LS		
**Miscellaneous				
Right of way				
Commercial	$25	SF		$0
Residential	$10	SF		$0
Residential relocations	$250,000	Parcel		
	Subtotal			$2,693
	Total Project Cost			$13,463
	Say			$13,500

L-10. Intersection operational improvements along Meadowlands Parkway

Basic Construction	Unit Cost (2007)			Total Cost
100' of left turn lane	$114,000	100 LF	6	$684,000
100' of right turn lane	$128,000	100 LF	6	$768,000
Additional Construction Items				
Traffic Signal	$250,000.00	Each	1	$250,000
Signal Intersection Control Revision	$ 98,000.00	ea	2	$196,000
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.41322	$53,719
Retaining Walls	$ 160.00	SF	0	$0
Widening Existing Bridge	$ 300.00	SF	0	
Removal of Existing Bridge Structure	$ 50.00	SF	0	$0
New Bridge Structure	$ 270.00	SF	0	$0
	Subtotal			**$1,951,719**
	Total Project Cost			$1,951,719
	Say			**$1,950,000**

L-11. Operational improvements at intersections along County Avenue

Estimated Cost = $200,000

The estimated costs include improvements at the intersections of County Avenue with Metro Way and Jefferson Avenue.

The estimated costs of the candidate improvements at these intersections include controllers, loop detection, and signal heads / mast arms. The estimated costs are based upon the estimated costs of an interconnected closed loop traffic signal system, as provided by the Federal Highway Administration.

L-12. Operational improvements at the intersection of Secaucus Road & Postal Service Road

Estimated Cost = $100,000

The estimated costs of the candidate improvements at this intersection include a controller, loop detection, and signal heads / mast arms. The estimated costs are based upon the estimated costs of an interconnected closed loop traffic signal system, as provided by the Federal Highway Administration.

Project Cost Model – Link Improvements

L-13. Widen and install center turning lane along WestSide Avenue

Basic Construction	Unit Cost (2007)			Total Cost
center turn lane	$44,950	100 LF	121.44	$5,458,728
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	3.15152	$409,697
Retaining Walls	$ 160.00	SF	0	$0
Widening Existing Bridge	$ 300.00	SF	0	
Removal of Existing Bridge Structure	$ 50.00	SF	0	$0
New Bridge Structure	$ 270.00	SF	0	$0
	Subtotal			**$5,868,425**
Preliminary Engineering	15% of contract amount			$880,264
Construction Engineering	10% of contract amount			$586,842
Special Studies & Value Engineering				$10,000
Surveys	$ 25,000.00	LS	1	$20,000
**Miscellaneous				
Right of way				
Commercial	$25	SF		
Residential	$10	SF	242880	$2,428,800
Residential relocations	$250,000	Parcel		
	Subtotal			$3,925,906
	Total Project Cost			$9,794,331
	Say			**$9,800,000**

Project Cost Model – Link Improvements

L-14. Connect 43rd Street across the railroad tracks between Westside Avenue and Dell Avenue

Basic Construction	Unit Cost (2007)			Total Cost
New 2 lane arterial	$6,020,724	Mile	0.25	$1,505,181
Additional Construction Items				
Traffic Signal	$250,000.00	Each	1	$250,000
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre		$0
Retaining Walls	$ 160.00	SF		$0
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		$0
New Bridge Structure	$ 270.00	SF	26100	$7,047,000
	Subtotal			**$8,802,181**
Mobilization @ 10%				$880,218
Clearing & Grubbing@5%				$440,109
Traffic Control @ 8%				$704,174
SUBTOTAL				**$2,024,502**
Contingencies	30% of contract amount			$3,248,005
Preliminary Engineering	15% of contract amount			$1,624,002
Construction Engineering	10% of contract amount			$1,082,668
Special Studies & Value Engineering				$1,000,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF	137925	$3,448,125
Residential	$10	SF		
Residential relocations	$250,000	Parcel		
	Subtotal			$10,452,800
	Total Project Cost			$21,279,483
	Say			**$21,300,000**

Project Cost Model – Link Improvements
L-15. Intersection Improvement at 83rd St. & Westside Ave.

Basic Construction	Unit Cost (2007)			Total Cost
100' of left turn lane	$114,000	100 LF	2	$228,000
100" of right turn lane	$128,000	100 LF	4	$512,000

Additional Construction Items					
Traffic Signal		$250,000.00	Each		
Signal Intersection Control Revision	$	98,000.00	ea	1	$98,000
Signal Timing Revisions	$	3,000.00	ea		
Wetland Mitigation	$	130,000.00	Acre	0.20661	$26,860
Retaining Walls	$	160.00	SF	0	
Widening Existing Bridge	$	300.00	SF	0	
Removal of Existing Bridge Structure	$	50.00	SF	0	
New Bridge Structure	$	270.00	SF	0	
	Subtotal				**$864,860**
	Total Project Cost				$864,860
	Say				**$900,000**

L-16. ITS Metering along Route 3 at Wittpenn Bridge

Project Cost Model – Link Improvements
ITS Metering along Route 3 at Wittpenn Bridge

Assumes, Signing, Overhead Structures and Signals at 3 locations along the highway

$1,000,000 per location estimate*

Total Project Cost	$3,000,000

* Based on data from "Freeway Management Systems - ITS Benefits, Costs and Lessons Learned, 2005 FHWA ITS Report

COST ESTIMATE CALCULATIONS FOR

CANDIDATE INTERCHANGE IMPROVEMENTS

Project Cost Model – Link Improvements

X-1. Deceleration lane at diverge ramp from eastbound NJ 3 to Meadowlands Parkw

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of widening (each side)	$3,010,000	Mile		$0
2 lanes of widening (same direction)	$3,638,250	Mile		
3 lanes of widening	$4,441,500	Mile		
4 lanes of widening	$4,798,500	Mile		
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre		
Retaining Walls	$ 160.00	SF		
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		
New Bridge Structure	$ 270.00	SF	5250	$1,417,500
	Subtotal			$1,417,500
Mobilization @ 10%				$141,750
Clearing & Grubbing@5%				$70,875
Traffic Control @ 8%				$113,400
SUBTOTAL				**$326,025**
Contingencies	30% of contract amount			$523,058
Preliminary Engineering	15% of contract amount			$261,529
Construction Engineering	10% of contract amount			$174,353
Special Studies & Value Engineering				$1,000,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF		
Residential	$10	SF	6300	$63,000
Residential relocations	$250,000	Parcel		
	Subtotal			$2,071,939
	Total Project Cost			$3,815,464
	Say			**$3,825,000**

Project Cost Model – Interchange Improvements

Grade-separate to address weave along northbound NJ 17 between merge ramp from westbound NJ 3 service road and diverge ramp to eastbound NJ 3

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of ramp widening	$3,010,000	Mile	0.39	$1,173,900
2 lanes of widening (same direction)	$3,638,250	Mile		
3 lanes of widening	$4,441,500	Mile		
4 lanes of widening	$4,798,500	Mile		
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.91827	$119,376
Retaining Walls	$ 160.00	SF	9000	$1,440,000
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		
New Bridge Structure	$ 270.00	SF	24300	$6,561,000
	Subtotal			$9,294,276
Mobilization @ 10%				$929,428
Clearing & Grubbing@5%				$464,714
Traffic Control @ 8%				$743,542
SUBTOTAL				**$2,137,683**
Contingencies	30% of contract amount			$3,429,588
Preliminary Engineering	15% of contract amount			$1,714,794
Construction Engineering	10% of contract amount			$1,143,196
Special Studies & Value Engineering				$1,000,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF		
Residential	$10	SF	37065.6	$370,656
Residential relocations	$250,000	Parcel		
	Subtotal			$7,708,233
	Total Project Cost			$19,140,192
	Say			**$19,150,000**

Project Cost Model – Interchanges

X-3. Extend merge ramp from eastbound EB Newark-Jersey City Turnpike to westbound I -280

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of ramp widening	$3,010,000	Mile	0.303	$912,121
2 lanes of widening	$3,638,250	Mile		
3 lanes of widening	$4,441,500	Mile		
4 lanes of widening	$4,798,500	Mile		
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.735	$95,500
Retaining Walls	$ 160.00	SF	6400	$1,024,000
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		
New Bridge Structure	$ 270.00	SF		$0
	Subtotal			**$2,031,622**
Mobilization @ 10%				$203,162
Clearing & Grubbing@5%				$101,581
Traffic Control @ 8%				$162,530
SUBTOTAL				**$467,273**
Contingencies	30% of contract amount			$749,668
Preliminary Engineering	15% of contract amount			$374,834.2
Construction Engineering	10% of contract amount			$249,889.47
Special Studies & Value Engineering				$500,000.00
Surveys	$ 50,000.00	LS	1	$50,000.00
**Miscellaneous				
Right of way				
Commercial	$25	SF	24000	$600,000
Residential	$10	SF		$0
Residential relocations	$250,000	Parcel		
	Subtotal			**$2,524,392**
	Total Project Cost			$5,023,287
	Say			**$5,025,000**

Project Cost Model – Interchange Improvements

X-4. Add deceleration lane from eastbound NJ Route 3 to eastbound Paterson Plank Rd

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of widening (each side)	$3,010,000	Mile		$0
2 lanes of widening (same direction)	$3,638,250	Mile		
3 lanes of widening	$4,441,500	Mile		
4 lanes of widening	$4,798,500	Mile		
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.17218	$22,383
Retaining Walls	$ 160.00	SF		
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		
New Bridge Structure	$ 270.00	SF	7500	$2,025,000
	Subtotal			$2,047,383
Mobilization @ 10%				$204,738
Clearing & Grubbing@5%				$102,369
Traffic Control @ 8%				$163,791
SUBTOTAL				**$470,898**
Contingencies	30% of contract amount			$755,484
Preliminary Engineering	15% of contract amount			$377,742
Construction Engineering	10% of contract amount			$251,828
Special Studies & Value Engineering				$1,000,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF		
Residential	$10	SF	6300	$63,000
Residential relocations	$250,000	Parcel		
	Subtotal			$2,498,055
	Total Project Cost			$5,016,336
	Say			**$5,025,000**

Project Cost Model – Link Improvements

X-5. Extend merge ramp from NJ 17 to eastbound NJ 3

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of ramp widening	$3,010,000	Mile	0.04735	$142,519
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.11478	$14,922
Retaining Walls	$ 160.00	SF	3750	$600,000
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		
New Bridge Structure	$ 270.00	SF	3750	$1,012,500
	Subtotal			$1,769,941
Mobilization @ 10%				$176,994
Clearing & Grubbing@5%				$88,497
Traffic Control @ 8%				$141,595
SUBTOTAL				**$407,086**
Contingencies	30% of contract amount			$653,108
Preliminary Engineering	15% of contract amount			$326,554
Construction Engineering	10% of contract amount			$217,703
Special Studies & Value Engineering				$1,000,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF	9000	$90,000
Residential	$10	SF		
Residential relocations	$250,000	Parcel		
	Subtotal			$2,337,365
	Total Project Cost			$4,514,392
	Say			**$4,525,000**

Project Cost Model – Link Improvements

X-6. Extend deceleration lane from westbound NJ 3 to northbound NJ 17

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of ramp widening	$3,010,000	Mile	0.0947	$285,038
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.11478	$14,922
Retaining Walls	$ 160.00	SF	7500	$1,200,000
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		
New Bridge Structure	$ 270.00	SF		$0
	Subtotal			$1,499,960
Mobilization @ 10%				$149,996
Clearing & Grubbing@5%				$74,998
Traffic Control @ 8%				$119,997
SUBTOTAL				**$344,991**
Contingencies	30% of contract amount			$553,485
Preliminary Engineering	15% of contract amount			$276,743
Construction Engineering	10% of contract amount			$184,495
Special Studies & Value Engineering				$1,000,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF	9000	$90,000
Residential	$10	SF		
Residential relocations	$250,000	Parcel		
	Subtotal			$2,154,723
	Total Project Cost			$3,999,673
	Say			**$4,000,000**

Project Cost Model – Link Improvements

X-7. Extend acceleration lane from southbound NJ 17 to westbound NJ 3

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of ramp widening	$3,010,000	Mile	0.22727	$684,091
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.91827	$119,376
Retaining Walls	$ 160.00	SF	7500	$1,200,000
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		
New Bridge Structure	$ 270.00	SF	15000	$4,050,000
	Subtotal			$6,053,466
Mobilization @ 10%				$605,347
Clearing & Grubbing@5%				$302,673
Traffic Control @ 8%				$484,277
SUBTOTAL				**$1,392,297**
Contingencies	30% of contract amount			$2,233,729
Preliminary Engineering	15% of contract amount			$1,116,865
Construction Engineering	10% of contract amount			$744,576
Special Studies & Value Engineering				$1,000,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF	9000	$90,000
Residential	$10	SF		
Residential relocations	$250,000	Parcel		
	Subtotal			$5,235,170
	Total Project Cost			$12,680,934
	Say			**$12,700,000**

Project Cost Model – Link Improvements

X-8. Add weave lane along westbound NJ 3 between on-ramp to northbound NJ 17and off ramp to southbound NJ 17

Basic Construction	Unit Cost (2007)			Total Cost
1 Lane of ramp widening	$3,010,000	Mile		$0
Additional Construction Items				
Traffic Signal	$250,000.00	Each		
Signal Intersection Control Revision	$ 98,000.00	ea		
Signal Timing Revisions	$ 3,000.00	ea		
Wetland Mitigation	$ 130,000.00	Acre	0.13774	$17,906
Retaining Walls	$ 160.00	SF	9000	$1,440,000
Widening Existing Bridge	$ 300.00	SF		
Removal of Existing Bridge Structure	$ 50.00	SF		
New Bridge Structure	$ 270.00	SF	9000	$2,430,000
	Subtotal			$3,887,906
Mobilization @ 10%				$388,791
Clearing & Grubbing@5%				$194,395
Traffic Control @ 8%				$311,033
SUBTOTAL				**$894,218**
Contingencies	30% of contract amount			$1,434,637
Preliminary Engineering	15% of contract amount			$717,319
Construction Engineering	10% of contract amount			$478,212
Special Studies & Value Engineering				$1,000,000
Surveys	$ 50,000.00	LS	1	$50,000
**Miscellaneous				
Right of way				
Commercial	$25	SF	9000	$90,000
Residential	$10	SF		
Residential relocations	$250,000	Parcel		
	Subtotal			$3,770,169
	Total Project Cost			$8,552,293
	Say			**$8,600,000**

APPENDIX V-A

Methodology for Evaluating Candidate Improvements

This appendix describes the methodology for evaluating candidate transportation system improvements. The process for evaluating the candidate improvements used the following three factors in a sequential screening process:

- Does the improvement enhance travel options and multi-modal connectivity?
- Does the improvement provide a direct benefit to travel within the District?
- Is the improvement cost-effective?

The following table is a summary of the results of the evaluation. In sum, all candidate public transit, pedestrian, and bicycle improvements are recommended projects; some candidate roadway segment improvements are recommended; no candidate roadway interchange improvements are recommended; and all candidate intersection improvements are recommended.

Evaluation Summary

Category	Multi-Modal	District Benefit	Cost Effective	Recommended
Transit	**Yes**	**Yes**	**Yes**	**x**
Pedestrian	**Yes**	**Yes**	**Yes**	**x**
Bicycle	**Yes**	**Yes**	**Yes**	**x**
Links (a)	-	No	No	-
Links (b)	-	Yes	No	-
Links (c)	-	No	Yes	-
Links (d)	-	Yes	Yes	**x**
Interchanges	-	Yes	No	-
Intersections	-	Yes	Yes	**x**

The following sections describe the evaluation methodology for each category of improvements.

Public Transit, Pedestrian, and Bicycle

All candidate improvements in these categories clearly meet each of the criteria; therefore, they all advance to become recommended improvements.

Roadway Segments (links)

Since none of the candidate improvements in this category would provide enhanced travel options or multi-modal connectivity, the analysis focused upon District benefits and cost effectiveness. For District benefits, the key indicator was whether the segment has a daily traffic volumes of less than 100,000, and for cost effectiveness the key indicator is the estimated improvement cost per future share excess capacity trips. All candidate improvements with District benefit and cost effectiveness of less than $4,000 per trip became recommended improvements. The following table is a summary of the segment evaluation following this process.

Evaluation of Candidate Roadway Segment Improvements

Link/ Category	Analysis #	Link ID	Roadway Class (Only Arterial)	Volume <10,000	District Benefit	Future Cost	Future Share Excess V-C	Cost /(V-C) <$4,000	Cost Effective	Recommended
Links (A)										
L-4	8	98012	Urban Freeway/ Expressway	13,696	No	$ 27,783,000	1,243	$ 22,352	No	-
L-5	9	57374	Urban Freeway/ Expressway	11,301	No	$ 16,480,000	2,262	$ 7,286	No	-
Links (B)										
L-7	11	60738	**Urban Principal Arterial**	**4,126**	**Yes**	$ 3,865,750	721	$ 5,362	No	-
L-13	24	100102	***Urban Minor Arterial***	**1,207**	**Yes**	$ 9,800,000	821	$ 11,937	No	-
L-14	24	100183	*Urban Minor Arterial*	**2,332**	**Yes**	$ 43,500,000	866	$ 50,231	No	-
Links (C)										
L-2	2	56685	Urban Interstate	**7,223**	No	$ 1,009,490	520	**$ 1,941**	**Yes**	-
L-3	7	56984	**Urban Principal Arterial**	10,688	No	$ 2,859,400	2,910	**$ 983**	**Yes**	-
L-8	12	90871	Urban Freeway/ Expressway	**8,453**	No	$ 1,350,000	441	**$ 3,061**	**Yes**	-
Links (D)										
L-1	1	100172	**Urban Minor Arterial**	**1,885**	**Yes**	$ 28,090	380	**$ 74**	**Yes**	**x**
L-6	14	98027	**Urban Principal Arterial**	**9,120**	**Yes**	$ 158,760	2,493	**$ 64**	**Yes**	**x**
L-9	13	101634	***Urban Minor Arterial***	**1,510**	**Yes**	$ 1,848	235	**$ 8**	**Yes**	**x**
L-10	10	10073	**Urban Minor Arterial**	**4,282**	**Yes**	$ 1,950,000	659	**$ 2,959**	**Yes**	**x**
L-11	18	98019	**Urban Minor Arterial**	**2,161**	**Yes**	$ 200,000	601	**$ 333**	**Yes**	**x**
L-12	19	98021	**Urban Minor Arterial**	**4,241**	**Yes**	$ 100,000	943	**$ 106**	**Yes**	**x**
L-15	25	100096	***Urban Minor Arterial***	**1,993**	**Yes**	$ 900,000	340	**$ 2,647**	**Yes**	**x**
L-16	3	56869	**Urban Principal Arterial**	**5,333**	**Yes**	$ 270,000	2,093	**$ 129**	**Yes**	**x**

Roadway Interchanges

None of the candidate improvements in this category would provide enhanced travel options or multi-modal connectivity, so the analysis again focused upon District benefits and cost effectiveness. For District benefits, the key indicator was whether the segment had a functional classification of below freeway, and for cost effectiveness the key indicator is the estimated improvement cost per unit improvement in ramp density (pc/ln/mi). Any candidate improvement with District benefit and cost effectiveness of less than $100,000 per unit of density would become a recommended improvement. The following table is a summary of the interchange evaluation following this process.

Evaluation of Candidate Roadway Interchange Improvements

Inter-changes	Roadway Type	Problem Type	District Benefit	Future Cost	Density Improvement (pc/ln/mi)	Cost/Density <$100,000	Cost Effective	Recommended
X-1 (7A)	Freeway	Diverge	No	$ 3,825,000	2.7	$ 1,416,667	No	-
X-2 (10B/11B)	**Multi Lane Collector**	Weave	**Yes**	$ 19,150,000	54.4	$ 352,022	No	-
X-3 (3L)	Freeway	Merge	No	$ 5,025,000	9.7	$ 518,041	No	-
X-4 (9C+L)	**Multi Lane Collector**	Weave	**Yes**	$ 5,025,000	17.63	$ 285,026	No	-
X-5 (11F)	Freeway	Merge	No	$ 4,525,000	36.8	$ 122,962	No	-
X-6 (11G)	Freeway	Diverge	No	$ 4,000,000	5.1	$ 784,314	No	-
X-7 (11N)	Freeway	Merge	No	$ 12,700,000	20.8	$ 610,577	No	-
X-8 (11H+L)	Freeway	Weave	No	$ 8,600,000	12.22	$ 703,764	No	-

Roadway Intersections

As with segments and interchanges, none of the candidate improvements in this category would provide enhanced travel options or multi-modal connectivity; therefore, the analysis focused upon District benefits and cost effectiveness. It was assumed that all candidate improvements would have District benefits. For cost effectiveness, the key indicator was the estimated improvement cost per second of reduced intersection delay. Any candidate improvement with District benefit and cost effectiveness of less than $25,000 per second of delay became a recommended improvement. The following table is a summary of the intersection evaluation following this process.

Evaluation of Candidate Roadway Intersection Improvements

Inter-section	District Distribution at Location	District Benefit	Future Cost	Reduced Delay (sec)	$/(Delay) <$25,000	Cost Effective	Recommended
I-1	**Yes**	**Yes**	$ 712,000	174.0	**$ 4,092**	**Yes**	**x**
I-2	**Yes**	**Yes**	$ 3,000	19.8	**$ 152**	**Yes**	**x**
I-3	**Yes**	**Yes**	$ 4,032,000	338.7	**$ 11,904**	**Yes**	**x**
I-4	**Yes**	**Yes**	$ 498,000	984.6	**$ 506**	**Yes**	**x**
I-5	**Yes**	**Yes**	$ 171,000	24.2	**$ 7,066**	**Yes**	**x**
I-6	**Yes**	**Yes**	$ 605,000	60.2	**$ 10,050**	**Yes**	**x**
I-7	**Yes**	**Yes**	$ 801,600	38.7	**$ 20,713**	**Yes**	**x**
I-8	**Yes**	**Yes**	$ 85,500	92.2	**$ 927**	**Yes**	**x**
I-9	**Yes**	**Yes**	$ 1,046,000	128.9	**$ 8,115**	**Yes**	**x**
I-10	**Yes**	**Yes**	$ 248,000	25.2	**$ 9,841**	**Yes**	**x**
I-11	**Yes**	**Yes**	$ 629,000	41.9	**$ 15,012**	**Yes**	**x**
I-12	**Yes**	**Yes**	$ 3,000	52.0	**$ 58**	**Yes**	**x**
I-13	**Yes**	**Yes**	$ 376,000	982.0	**$ 383**	**Yes**	**x**
I-14	**Yes**	**Yes**	$ 1,280,000	74.1	**$ 17,274**	**Yes**	**x**
I-15	**Yes**	**Yes**	$ 256,000	19.8	**$ 12,929**	**Yes**	**x**
I-16	**Yes**	**Yes**	$ 768,000	192.6	**$ 3,988**	**Yes**	**x**
I-17	**Yes**	**Yes**	$ 250,000	796.7	**$ 314**	**Yes**	**x**
I-18	**Yes**	**Yes**	$ 790,000	177.0	**$ 4,463**	**Yes**	**x**
I-19	**Yes**	**Yes**	$ 364,000	83.7	**$ 4,349**	**Yes**	**x**
I-20	**Yes**	**Yes**	$ 1,259,000	104.0	**$ 12,106**	**Yes**	**x**

APPENDIX V-B

Methodology for Staging Plan

This appendix describes the methodology for preparing a proposed plan to stage the recommended transportation improvement over five stages over the next 24 years. The following table is a summary of the staging.

Category	Stage
Public Transit	Stage I
Pedestrian	Stage I
Bicycle	Stage I
Links	Stages I-V
Interchanges	Stage II
Intersections	Stages I-V

All recommended public transit, pedestrian, and bicycle improvements are included in Stage I. This staging reflects the Plan's emphasis on alternative travel modes.

Roadway link and intersection improvements are included in Stages I through V, based upon a rating system that uses the variables of functional classification and congestion severity. Those links or intersections with the highest ratings were placed in earlier stages. The following tables summarize the rating values for links and intersections, respectively.

			Segments	Intersections	
Classification	Rating		V:C Ratio	Delay	Rating
Freeway	5		1.8+	500+	5
Principal Arterial	4		1.6 – 1.79	200 - 499	4
Minor Arterial	3		1.4 – 1.59	100 - 199	3
Collector	2		1.2 – 1.39	50 - 100	2
Local	1		Under 1.2	Under 50	1

Chapter VII builds upon this proposed staging to present a financial plan.

APPENDIX VI

Public Sources of Transportation Project Funding

A. FEDERAL

Federal transportation funding is available from various modal agencies. The Federal Transit Administration and the Federal Highway Administration are the most prominent and relevant to this Plan. Funding from these agencies takes the form of formula apportionments and competitive grants, almost all of which are awarded through the state department of transportation. A few discretionary programs may be accessible directly, but they still may require coordination with the state.

B. STATE

1. NEW JERSEY DEPARTMENT OF TRANSPORTATION

Transportation Capital Program. NJDOT programs most of its capital expenditures into individual projects identified in its capital program. Other expenditures are bundled into programmatic line items (e.g., resurfacing), and others are classified broadly under "capital program delivery." The capital program includes projects funded mostly by the state Transportation Trust Fund (TTF) and federal sources. The FY 2007 capital program totals $3.2 billion (including $1.9 billion for NJDOT projects and $1.3 billion for NJ TRANSIT projects), with an almost 50/50 ratio of state to federal funds.

The state reauthorized the Transportation Trust Fund in 2006 to provide a steady funding source for the next five years. The TTF receives revenues from bond proceeds, the 10.5-cent gas tax, toll road revenues, petroleum gross receipts, and general sales tax.

Local Aid Program. The second major NJDOT funding source is the Local Aid and Economic Development Program, which provides state and federal funding through several smaller programs. The State Aid Program, which is funded through the Transportation Trust Fund for about $150 million annually, provides funding under the Municipal Aid, County Aid, Centers of Place, and Discretionary funding programs. Federally funded programs include Bikeways, Local Lead, Local Scoping, Transportation Enhancements, Safe Routes to School, and the Transit Village Program. Municipalities and counties determine the projects to be financed with formula Municipal Aid and County Aid local aid funds from the State, with state oversight and approval.

2. NJ TRANSIT

Capital. As noted, NJ TRANSIT receives capital funding through the state TTF and federal sources through the NJDOT capital program.

Operating. In FY 2005, NJ TRANSIT had an operating budget deficit of more than $800 million, which reflected the difference between operating expenses and revenues (mostly from fares). The major funding sources are a transfer of capital funds and state subsidy.

C. PORT AUTHORITY OF NEW YORK AND NEW JERSEY

Another potential funding source is the Port Authority of New York and New Jersey. The Port Authority adopts annually a Capital Program that identifies projects and other items for funding over a ten-year period. The 2007-2016 Capital Program totals $26.1 billion. The Authority derives nearly all its revenues from fees that it charges the tenants and users of its facilities.

D. LOCAL

Funding for transportation improvements varies by county and town and is established through their capital programming and budget processes.